

PUBLIC DOCUMENTS,
1879-80.




Alderman
William P. Ellison.

WR



3 1323 00360 5069

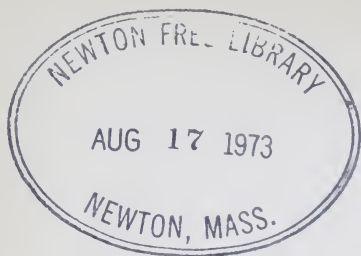


Digitized by the Internet Archive
in 2017 with funding from
Boston Public Library

THE
INAUGURAL ADDRESS
OF
ROYAL M. PULSIFER,
MAYOR OF NEWTON,
TO
THE CITY COUNCIL,
JANUARY 5, 1880.



Boston:
PRESS OF ROCKWELL AND CHURCHILL, 39 ARCH STREET.
1880.



NR
352
N48P
1879/1880.

ADDRESS.

Gentlemen of the Board of Aldermen and Common Council:—

YOU have been selected to represent the citizens and tax-payers of Newton during the year 1880, to the extent of determining how much money it is wise and best for the tax-payers to devote to municipal uses, and in what manner the sums so devoted shall be expended. To a large degree your duties are similar to those which devolve upon the Directors of a large business corporation. In your case, however, you have interests in your charge more important than the expenditure or investment of money for the sake of a mere money return. On your action depend very largely the peace, security, and comfort of living, which together have rendered our city a desirable place of residence.

You may properly feel a pride in the general advantages which have accrued to those who have made their homes in Newton, and it should be your aim to continue and enlarge those advantages. The people of this community demand excellence in every

department of public work which will come under your supervision. They demand good streets and sidewalks, streets well lighted, an efficient force of police, a well-organized Fire Department, decent and proper care for the unfortunate poor, liberal provision for the excellent Public Library, and the maintenance of the schools at their present high standard. These demands are just. Action in accordance with them is not only economy for the present, but a judicious investment for the future. I do not believe that the citizens of Newton will tolerate in the future, in the departments which I have mentioned, or in others, any lower degree of excellence than has been enjoyed in the past. Whatever methods you may adopt the results must be, in the several departments, not inferior to those to which our people have become educated, and for which they are willing to pay.

Taxation has always been spoken of as a burden, and probably always will be, while it ought to be a cheerful contribution to secure such advantages as we have always enjoyed in Newton.

In my judgment the only possibility of reducing the city expenditures lies in the adoption of some new methods, which, while costing less, shall accomplish results equal to the past. To this, then, your attention should be directed.

The economy which the city should practise is the

economy of thrifty management; frugality in the use of money and time and labor. Instead of true economy it may be the veriest parsimony to simply reduce expenditures. I believe in a policy which shall be marked by liberal economy.

You are to be congratulated that the municipal corporation, upon the management of which you to-day enter, has been honestly managed in the past; that there have been found, willing to accept the burdens of office, citizens who have endeavored to meet their respective duties with an eye single to the public good; that, while methods and systems have been criticised and, from time to time, modified, there has never been a suspicion that money has been corruptly used for the benefit of the officials by whom expenditures were directed.

As the financial year of the city is now coincident with the calendar year, it is impossible for me to speak definitely in regard to the financial history and condition of the various departments. For such particulars I must refer you to the department reports which will be made to the City Council as soon as it is possible to close the several accounts. I do not find that the City Engineer is called upon by either ordinance or standing rule to make any regular report. The importance of the work under his charge, and the very large amount of money which

is annually expended in prosecuting it, seem to me to render such a report desirable.

The total amount of the appropriations for the year 1879 was \$375,400. Of this amount \$75,500 was appropriated for interest on permanent and temporary loans, and \$25,000 for the annual contribution to the Sinking Fund. Deducting these two sums there remained \$274,900 for current expenses. Of this sum about thirty-one per cent. was appropriated for the Public Schools; about twenty-four per cent. for the Highway Department, in which I include all the work performed and material purchased under the direction of the City Engineer and Superintendent of Highways; about eight per cent. for the Fire Department; about seven per cent. for the lighting of streets, and five and one-half per cent. for the Police Department, leaving about twenty-five per cent., or, say, \$68,000, for all other expenses, including maintenance of Public Library, expenses of Water Department, salaries of officers, care of poor, etc. I judge that the expenditures have been generally kept within the appropriations during the past year, excepting the appropriation for drains and culverts, and the appropriation for land damages. The former was largely exceeded, under the direction of the Board of Health, for the construction of the drain east of Central Avenue in Ward Two;

and the latter by reason of the damages awarded by arbitrators on account of the construction of the Cypress-street bridge. This bridge has been constructed by the New York & New England Railroad Company, and both the bridge and the approaches to it are to be maintained by the same corporation.

Notwithstanding the expenditures have exceeded the appropriations in the two cases above noted, the actual receipts from various sources have so far exceeded the receipts as estimated at the beginning of the year, that the estimated excess is reduced to about \$2,500. The city's claim for betterments on account of construction of the Newtonville drain, and for improvement of Cheese-Cake brook, will, when collected, more than balance this deficiency.

THE CITY DEBT.

The annual statements of the City Auditor and the City Treasurer, which will be submitted to the City Council on or before March 1st, will furnish detailed and accurate accounts of the city's financial condition.

The following is a statement of the debt of the city December 31st, exclusive of unrendered or unadjusted accounts: —

Water Loan	\$835,000 00	
Accrued interest on same	23,875 00	\$858,875 00
Town and City Notes	323,000 00	
Accrued interest on same	4,238 72	327,238 72
Municipal Bonds	34,000 00	
Accrued interest on same	850 00	34,850 00
Temporary Loan, made in anticipation of taxes of 1880	60,000 00	
Accrued interest on same	240 00	60,240 00
Uninvested portion of principal of Ken- rick Fund	1,500 00	
Accrued interest on same	75 00	1,575 00
Total		<u>\$1,282,778 72</u>

SINKING FUNDS.

The sinking fund for the redemption of Water Bonds consists of \$47,000 in Newton five per cent. Water Bonds and \$1,962.78 in cash. The sinking fund for the redemption of other loans consists of \$8,000 in Newton five per cent. Water Bonds, \$10,000 loaned on collateral of United States four per cent. Bonds, and \$3,445.98 deposited in bank. From this latter fund \$30,000 was drawn during the last year to cancel a note which matured, and the two funds were jointly increased last year by \$25,000. No part of the present debt, excepting the temporary loan, matures during the current year.

I remind you that there is to-day no money appropriated for any purpose, and one of your earliest duties must be the appropriation of funds, if any, now in the treasury, for the payment of liabilities incurred under the direction of the last City Council, and for the maintenance of the several departments. One of the next duties will be to authorize the borrowing of money in anticipation of taxes which will be assessed in May, and collected next October. As a matter of fact, the City Council of 1879 was compelled to borrow \$60,000, more than a month ago. It is not at all probable that you can wisely and carefully determine how much money should be appropriated for the several departments much before March 1st. In the mean time, all the various departments must be kept in operation, and temporary appropriations must be made to maintain them. Such a procedure seems to me disorderly and unbusiness-like. I very earnestly renew the recommendations of my predecessor, which provided an adequate remedy both for the necessity of appropriating money before the Council can have opportunity to carefully consider the needs of the several departments; and, also, the necessity which now exists for borrowing money at current rates, as one of the first duties of each City Council. His suggestions

were that the financial year should commence May 1st, and that to meet the expenses of the first four months of the year, in which the change should be made from January 1st to May 1st, as the date for beginning the financial year, Municipal Bonds to the amount of \$100,000 be issued. If this plan should meet your favor, I recommend that bonds be issued in small denominations, exempted from taxation, and bear interest at four per cent. per annum. Such bonds should find a ready market anywhere, and would afford a desirable form for home investment.

Apparently, but not really, this change would increase the city debt. So far as the amount of the debt is concerned, the only possible difference would be a difference of accounts. In any event the city must borrow the money and must repay it. Under the present system the money would be repaid in November, only to be reborrowed in December. Under the plan which I suggest it would be put in a form in which \$100,000 would be borrowed for ten years, and it would be repaid and the debt cancelled by the operations of the sinking fund at the end of that term, or the loan could be divided into ten equal parts, one-tenth maturing each year. Instead of increas-

ing the city debt, this provides a plan for a gradual payment of a certain portion of it.

Neither would it increase the amount to be raised by taxation the current year, which, instead of covering the expenditures for the twelve months ending December 31, 1880, would cover the expenditures for the twelve months ending April 30, 1881, and the expenditures for the first four months of the year would be met by taxation spread over the next ten years.

By the statutes and ordinances the duties of the Mayor, the Aldermen, and the members of the Common Council, are clearly defined. I need not enter into any argument to show you that the city will be bound to meet any liability legally incurred, whether by the Mayor, by either branch of the City Council, or by agents appointed by them. For example, by ordinance No. 5 of the new code, the Board of Aldermen are made a Board of Health. If the Board of Health incurs a liability for abating a nuisance, or by employing a physician or agent, without question such liability must be met by the city. It must be met just as surely as the interest on the city debt must be paid, and it is the duty of the City Council to take care that money is appropriated to meet this and all other proper liabilities; but

if the City Council neglects its duty, or refuses to perform it, with the City Council the responsibility must rest.

There are ways by which the city can be compelled to pay its debts; but I shall not consider that it is my duty to approve the payment of any money unless it has either been appropriated by the City Council, or its payment has been ordered by a power which is above the Council.

WATER DEPARTMENT.

In my judgment the large cost of the water works, and their constant importance in supplying water both for domestic and fire purposes, render it essential that they should be managed by persons selected solely on account of their fitness for such work. It is also desirable that the management of this very important department should not be liable to radical change each year.

The Water Commissioners, under whose direction the works were constructed, in their final report to the City Council gave their judgment in favor of the management of the water works by a commission. What I joined in recommending, in that report, I now renew.

The following extract from that report gives

some of their reasons for recommending a commission:—

The Water Department differs from other municipal bureaus in several points, which affect the question of its management. It produces an income above its current expenses, the amount of which income must depend upon the careful adjustment of many small details each to the other, and the exercise of that foresight which is taught by experience. If the guiding power is in a Board, the constitution of which provides against abrupt changes of membership, their experience will accumulate into wise traditions and a stable system, and the department will work with the least possible friction, and yield the best attainable result. The continuity of this experience will not be broken by the death, resignation, or removal of any one person; nor can the defects or eccentricities of any one person much affect the efficiency of the service.

If the water works were managed by a committee of the City Council, such a committee would be liable to be entirely changed each year, while its members might or might not be qualified to give wise direction to the affairs of the department, on account of an intimate knowledge of its workings and its needs. On the other hand, a commission would be composed of men selected solely on account of their special fitness for the work, and would be subject only to gradual change.

So far as I have been able to ascertain the facts, they go to show that Newton is singular in its management of water works by a committee of the City Council. Returns from twenty-six of the

cities and larger towns of Massachusetts show that their water works are managed either in whole or in part by commissioners, some of them paid, and some of them unpaid. In this list are included Fitchburg, Lowell, New Bedford, Worcester, Springfield, Taunton, Lawrence, Salem, and Waltham. The places from which I have not been able to get definite information on this point are nearly all small; certainly none of them have water works comparable with ours in magnitude. In a word, the almost universal experience in Massachusetts is in favor of the management of water works by a commission.

There are now laid in the city about fifty-seven miles of main water-pipe, of which between three and four miles were laid last year. That the use of the water is becoming more and more general is shown by the fact that during the last year 232 service-pipes were laid, against 188 laid in 1878. The total number of services laid to date is 1,917. The gross receipts for water have increased from about \$23,500, in 1878, to about \$27,000, in 1879.

Orders have been passed for a short extension of main pipe in Walnut street, Ward Two, and there are petitions on file for the laying of about two and one-half miles more. There are on hand, and paid for,

about 12,000 feet of main pipe. Undoubtedly it will be found necessary to make extensions each year.

With ample pumping machinery and reservoir it is desirable to make gradual extensions of distributing pipe, provided, by so doing, a fair return can be obtained in water rates.

During the past year a settlement has been effected with the mill-owners on Charles river, on account of water damages claimed, by paying them the gross sum of \$25,000.

The suit of the city against Michael Doherty, as surety for Devlin, Long & Moore, the contractors for laying the water mains, is now being heard. Should it be decided in the city's favor a considerable sum could be placed to the credit of water construction. It is worthy of note that this account is still considerably inside of the amount authorized for original construction, notwithstanding the fact that the additions and extensions of the two years which have elapsed since the commissioners surrendered the works have all been charged to it.

Beyond the extensions of main pipe I am not aware that any considerable extra expenditure will be called for this year, unless it is thought best to erect at the pumping station a dwelling-house for the engineer.

THE CITY ORDINANCES.

The ordinances of the city during the past year have been revised with great care by the Joint Standing Committee on Ordinances, who were aided in their labors by the advice and long experience of Joseph W. Story, Esq. After being reported to the City Council they were carefully considered, and, as finally adopted, form on the whole an excellent code. To accomplish this work during their term of office it was necessary for the two bodies of the last City Council to hold a number of special meetings; and the thanks of the Council are due to them for this unselfish labor, which might have been transferred to you.

One of the last acts of the City Council of 1879 was to order these ordinances to be printed, for the guidance of members. A manual containing only the ordinances and the statutes, or portions of statutes, on which they are based, will soon be printed in a permanent form. A separate manual can be prepared to contain the standing rules and orders, lists of city officials, committees, etc. It seems unnecessary to annually print the ordinances and statutes, and this will be obviated by printing them separately from matter which is subject to at least annual change.

THE CITY CHARTER.

Late in the spring of 1873 the town of Newton appointed a committee to procure from the Legislature a city charter. In order to secure action at that session a form of charter was prepared with comparatively little consideration, on account of the limited time which the committee could take. As a matter of fact, a form of charter was adapted from the charters of several other Massachusetts cities, and these had been largely adapted from the charter of the city of Boston. Our charter was probably as good and as well adapted to our needs as it was possible to obtain from a committee which had to act hastily in order to secure action in the last days of a Legislature. Probably, too, had not the charter closely followed the charters of other cities it could not have been accepted by the voters. I have closely watched the workings of our city government for six years, and I am satisfied that it would now be possible and desirable to secure important changes in the charter.

Newton is peculiar in its needs, from the fact that it is part city and part country; consisting of a number of closely settled villages widely scattered, and large areas of farming or uncultivated land. I should be glad to see Newton adopt a form of charter which would secure the best possible government for its

diverse interests, and which might differ radically from the charters of other cities. Changes of this kind should not be hastily adopted. I recommend that a commission of five or seven members be appointed to carefully consider this matter, and that such a commission be allowed ample time for the performance of their duties and the preparation of a report to the City Council. I should be disappointed if such a commission did not recommend for one change an extended tenure of office for the Mayor and the members of the City Council. Another radical change which would merit careful consideration would be the government of the city by a single board, instead of two, as is customary. Such a change would have at least one merit, that it would avoid the possibility of such disagreements between the Board of Aldermen and the Common Council as would leave important offices unfilled and inoperative for months. It would also prevent the jealousy which has recently seemed to exist between the two branches of the City Council.

HIGHWAY DEPARTMENT.

Next to the schools the Highway Department, in its various branches, calls for the largest appropriation for its maintenance. Partly because the results

of its work are conspicuous, partly because its work is necessarily very expensive, and partly because the expenditures in this department have often exceeded the appropriations, its work and the methods of performing it have been subjected to more criticism than has fallen to the lot of any other department. For some of these reasons, the department will be liable to adverse criticism in the future. It must be constantly borne in mind that we have a very large number of streets, aggregating great length. The expense of keeping these in proper order must be large. It will be a mistake to apply the same treatment to all our highways. Some of the streets are city streets, which must be provided with sidewalks, thoroughly macadamized, and kept free from weeds, etc. Other streets are country roads, which receive comparatively little use from either teams or pedestrians. Such roads should receive entirely different treatment from those first mentioned. Their utility should always be preserved; but to this sidewalks are not essential, neither is it important that every foot should be carefully gravelled. The beauty of these streets for pleasure-driving will be enhanced by leaving the rural features in a great measure intact.

An example of a model country road may be seen near the Poor Farm, where the sides have been neatly turfed. In this particular instance the care of this

turf was undertaken by an individual who was anxious that this method of caring for some of our streets might be faithfully tried. The method has certainly been successful in making that portion of the street attractive. There are many other streets which would be improved in appearance by the same treatment.

Whatever other reason for complaint may exist this year, I trust that you will not furnish just cause for one by allowing the expenses incurred in this department to exceed the appropriations.

The members of the City Council who are called upon to serve either on the Highway Committee or as Highway Surveyors will be met with a continual pressure to have certain so-called improvements made. It will require careful discrimination and considerable firmness to select, from the mass of work which they will be urged to recommend, those parts which it will be judicious to have done.

By examining Ordinance No. 9 you will notice that the repairs of highways, streets, sidewalks, and bridges are placed under the charge and control of the Highway Surveyors. The Highway Surveyors are chosen by the Aldermen; the Aldermen alone can direct how the surveyors shall expend money, and the Aldermen may revoke their appointment. The work under the charge

of the surveyors is very important, and involves a large percentage of the money appropriated for highway purposes.

During the past year the work that now devolves upon the surveyors has been done by a standing committee of the Board of Aldermen. There has also been a standing committee on highways on the part of the Common Council, whose duty it has been "to keep itself informed of any and all expenditures made upon the highways, sidewalks, drains, culverts, sewers, and bridges of the City of Newton, under direction of other than the joint standing committee thereon, and to report upon the same or any portion thereof, at request of the Common Council."

As a better method of obtaining information concerning the workings of this important department, I recommend that the Aldermen appoint one or more members of the Common Council Highway Surveyors. The work of the Highway Surveyors is so closely connected with the work of the Joint Standing Committee on Highways that I see no objection to appointing that entire committee Highway Surveyors, although it should always be borne distinctly in mind that this committee, when acting as surveyors, will be entirely under the control and direction of the Board of Aldermen.

The expense of this department can certainly be kept within the sum appropriated for it last year.

THE POLICE DEPARTMENT.

The police problem for Newton is a difficult one to solve; the difficulties arising mainly from the long distances to be covered, and the large number of isolated residences. Were the force increased ten-fold it would still be impossible to guard each locality all the time. I am not prepared to recommend any radical change in the system now existing. I think, however, that the efficiency of the force would be promoted by relieving the City Marshal of his duties as health officer. His present office duties are now so numerous that he is not left sufficient time for such thorough supervision of the force, as I know to be desirable. The employment of a health officer, at a small salary, would practically add another efficient officer to the police force. I recommend that the salaries of police officers be graded from a minimum for the first year of service to a maximum the third year. It does not seem just to pay the same salary to men with little experience as is paid to men who have served on the force for a long term.

SEWERAGE.

You will have before you for consideration a report of the commissioners appointed in 1876 to devise a plan for disposing of the sewage of the city. This report was made to the City Council only last Friday evening, and I am unable to make comment or recommendation on their particular plan. I can only say that in my judgment whatever Newton may need to-day for a system of sewerage, our needs are certainly less than those which existed before the introduction of pure water. Four years ago, particularly in the thickly settled sections of the city, in very many cases the receptacles for sewage were in too close proximity to the wells from which drinking water was drawn. No such danger need now exist. The work of constructing sewers will be enormously expensive and great care should be exercised in selecting and adopting a system. For some portions of the city it is quite possible that the "Waring System," so-called, which is being tried at the Woman's Reformatory Prison, at Sherborn, and on a more extensive scale at Lenox, Mass., may be found practicable. It is not probable that you will consider it judicious to devote to the construction of drains and sewers this year any larger sum than was

expended last year for that purpose. It is important that some definite comprehensive plan be adopted, in order that whatever is done in construction may be done in harmony with that plan.

FIRE DEPARTMENT.

This department seems to be in excellent condition, both as to its outfit and as to the efficiency of the force.

The Chief Engineer recommends that permanent drivers be employed for the hose carriages; that a double-tank chemical engine be purchased and put in service, and that the number of fire-alarm boxes be increased.

I cordially endorse the latter recommendation. The chief value of any methods adopted for extinguishing fires lies in their prompt application. Our present fire equipment would be largely increased in efficiency if, by an increase of fire-alarm boxes, a more prompt response to alarms of fire could be obtained. We have now only twenty-two alarm-boxes. Double that number would not be excessive.

PUBLIC SCHOOLS.

Our public schools are in excellent condition, maintaining the reputation which has drawn many

people to settle with us, in order that their children may have the advantages which our schools offer. The details of their management have been wisely given to the School Committee, a continuous body, whose members have been selected on account of their special fitness for the work. I am assured from that committee that it will be impossible to reduce the general appropriation for school purposes below the sum granted last year, without impairing the usefulness of the service. No appropriations will be asked for this year for new buildings. I believe that the School Committee will be judicious in their recommendations. They thoroughly understand the work committed to their care ; they know that Newton has adopted a high standard for her schools, and they realize that the service must be kept up to this standard ; in common with you they realize, too, that the tax-payers insist that for every dollar expended its full value shall be received. The committee are not likely to ask for any more money than the city ought to appropriate to this important use. Unless there are very strong reasons for a contrary course, their requisition should be cheerfully met.

THE PUBLIC LIBRARY

continues in an unostentatious way to perform its

valuable functions, contributing constantly to the general intelligence and culture of our citizens. Its care having been assumed by the city, I have no doubt that it will be no less your sound judgment than your pleasure to promote its efficiency in every proper way. I shall gladly coöperate with you in any plan for extending its benefits to all our citizens, particularly by making as easy as possible its use by residents of wards remote from that in which the library building is located.

PUBLIC PARKS.

Believing, as I do, that whatever is done to increase the material advantages and attractions of Newton will prove a valuable investment for the city, bringing material returns by inducing people to take up their residence in our city, thereby increasing the aggregate wealth upon which taxes may be levied, I recommend that the initial steps be taken towards securing a public park for Newton. With careful management it would be possible to secure several large tracts of land which are of very little value for building purposes, but which would furnish a park, or series of parks, of great beauty, and which would be generally and easily accessible. I believe that in the near future the

wisdom of such purchases would be fully recognized, and a moderate increase of the funded debt for such a purpose, the benefits arising from which will be largely in the future, I should consider proper. It will not be necessary to decide this question until all the properties which it might be considered desirable to purchase have been bonded, so that the entire amount involved in the original cost could be known before any money was appropriated for the purpose. As the lands which would naturally be taken are chiefly wild and unproductive, a comparatively small amount of money would probably need to be expended for land. If four per cent. bonds were issued to secure the necessary funds, the annual charge to be met by taxation for interest and sinking funds would be so small as to make no appreciable increase of burden on tax-payers. With the lands secured, and a general plan for improvement adopted, the actual improvements may be made slowly, and to only such extent as successive City Councils may think proper. Should some plan to accomplish this result meet with your approval, and should such plan be actually carried out, the establishment of a public park will be considered in the future the best work which this City Council is likely to have the opportunity of performing. In the mean time the very

few little parks which belong to the city should be carefully preserved and beautified. Public-spirited citizens of wealth will gladly coöperate with the city in such beautifying, if a proper liberality is shown by the City Council.

THE CLAFLIN GUARD

has been thoroughly reorganized during the year, and is in fine condition. The character of the men who now compose the company, their interest in the service, the excellence of their deportment, and their military proficiency, together contribute to render the company worthy of your interest and a liberal support.

DIVISION OF WARDS.

Section 3 of the City Charter contains the following paragraph: "The City Council may, in the year 1875, and in every fifth year thereafter, make a new division of said wards, so that they shall contain, as nearly as may be consistent with well-defined limits to each ward, an equal number of voters in each ward, according to the census to be taken in the month of May or June in said years."

It is proper that this permission should be availed

of this year, and I commend the subject to you for consideration and action.

In conclusion let me remind you that in the performance of your duties no political reasons should have the slightest weight; no personal prejudices nor personal friendships should influence your official action, and no ward lines circumscribe your interest for the city's best welfare. The provisions of the city charter which require the selection of one alderman from each ward, and the election of members of the Common Council by the several wards, are not intended to confine the interest of members of the City Council to the respective wards from which they been selected. It should not be considered a reproach to any member of the City Council that his particular ward has failed to secure any special advantages through his connection with the city government; neither should it be considered a reason for individual praise that one ward has secured certain expenditures.

Your selection from the several wards is simply and solely that your special and more intimate knowledge of the needs of your respective localities may be presented in the most intelligible form to the whole City Council for action. Your only consideration when called upon to decide the

various matters which will be brought to your attention should be, what action will secure the greatest benefit to the whole city.

Is any argument necessary to show how extravagant and wasteful would be the management of a great business corporation if each director should devote his energies towards securing appropriations for particular portions of the property, disregarding their effect upon the property or business considered as a whole?

Bring to each question of business only business considerations, and remember that your usefulness largely depends on your faithful consideration of each question in its relation to the city as a corporation, and not to portions of it, with arbitrary limits.

AUDITOR'S ANNUAL REPORT
OF THE
FINANCES
OF THE
CITY OF NEWTON

For the Year Ending December 31, 1879,

TOGETHER WITH

THE REPORT OF THE CITY CLERK, THE OVERSEERS OF THE
POOR, AND THE CITY MARSHAL.

NO. CCI.



THE J. C. CLARK PRINTING COMPANY, SOUTH FRAMINGHAM, MASS.
1880.

CONTENTS.

City Government, 1879	vi-xii
City Government, 1880	xiii-xx
Auditor's Report	1
City Treasurer's Account	3-6
Report of Committee on Finance	6-7
Liabilities	7-8
Assets and Recapitulation	8-10
Receipts	10-11
Expenses	12-13
Table showing Appropriations, Mayor's Warrants, etc.	14-15
Table showing Permanent Debt	16
Statement of the Kenrick Fund	17
Taxes and Taxable Valuation	17-18
Ledger Balances	18
Statement of Sinking Funds	19-20
Detailed Statement of Receipts and Expenses	20-85

RECEIPTS.

Almshouse	20
Armory	21
Board of Health	21
Books, Stationery, and Printing	21
City Clerk's Fees	21
City Hall	21
Corporation Tax	21
Criminal Fees	21
Dog Tax	22
Fire Department	22
Funded Debt	22
Highways	22
Interest on Daily Balances, Taxes and Water Account	23
Kenrick Fund Income	23

National Bank Tax	24
Non-Resident Pupils	24
Premium on Water Bonds	24
Poor out of Almshouse	24-25
Public Property	25
Sidewalks and Curbing	25
Sinking Fund Commissioners	26
State Aid	26
Suspense Account	26
Taxes, 1871 to 1879	26-28
Temporary Loans	28
Water Rates	28
Water Rates by Meter	29
Water Department	29

EXPENDITURES.

Almshouse	29-30
Armory	30-31
Books, Stationery, and Printing	31-32
Burial Grounds	32
Board of Health	32-33
Conveyance of Pupils	33-34
Curbing	34
Concrete Sidewalks	34
City Clerk's Salary	34
City Hall	35
City Engineer's Department	36
Drains and Culverts	36-37
Evening Schools	37
Fire Department	37-45
Gravel Lands	46
Highways, General Repairs	46-50
Highways, Widening and Improvements	51
Industrial and Mechanical Drawing	51
Interest on City Loans	52
Interest on Water Bonds	52
Indigent Soldiers and Sailors	52
Land Damages	52
Lighting Streets	53
Memorial Day	53
Miscellaneous Expenses	53-57

CONTENTS.

v

Newton Free Library	57-60
Newton Free Library, Publishing Catalogue, (Special)	60
Police Department	60-62
Poor out of Almshouse	62-66
Public Property	66-68
Public Squares	68
Salaries	69
Sinking Funds, Water Bonds	69
Sinking Funds, City Debt	69
Schools — General Appropriation for	70-74
Schools — Incidentals and repairs	75-77
State Aid	77-78
State Aid, under chapter 252, acts of 1879	78
Temporary Loans	79
Taxes, State, County, National Bank	79
Use of Hydrants	80
Water Construction	80-82
Water Maintenance	82-84
Water Department, Meter and Service Pipe	84-85
Schedule of City Property, Real and Personal	85-89
Table showing the number of Polls, Real and Personal Estate, etc.	90
Table showing amount paid for support of Poor out of Almshouse from 1851 to 1879, inclusive	91
Salaries of City Officers, 1880	91-94
Report of City Clerk	95-103
Report of Overseers of the Poor	105-111
Report of City Marshal	113-118

OFFICERS
OF THE
NEWTON CITY GOVERNMENT.
1879.

MAYOR.

WILLIAM B. FOWLE.

BOARD OF ALDERMEN.

¹JAMES F. EDMANDS, *President*.

WARD ONE.

FRANCIS G. BARNES.

WARD TWO.

WILLIAM W. KEITH.

WARD THREE.

EDWARD R. SECCOMB.

WARD FOUR.

CHARLES C. BURR.

WARD FIVE.

GEORGE D. ELDRIDGE.

WARD SIX.

¹JAMES F. EDMANDS.

²DWIGHT CHESTER.

WARD SEVEN.

GEORGE S. BULLENS.

COMMON COUNCIL.

JOHN Q. HENRY, *President*.

WARD ONE.

C. BOWDITCH COFFIN.
EDWARD SAWYER.

WARD TWO.

J. WESLEY KIMBALL.
JOSEPH W. STOVER.

¹Resigned, July 2, 1879.

²Elected to fill vacancy, July 23, 1879.

WARD THREE.

DAVID W. CHILD.
WILLIAM DIX.

WARD FOUR.

NATHAN MOSMAN.
BENJAMIN BOURNE.

WARD FIVE.

GEORGE E. WALES.
ALLISON O. SWETT.

WARD SIX.

CHARLES C. BARTON.
EDWARD B. BOWEN.

WARD SEVEN.

JOHN Q. HENRY.

WILLIAM P. ELLISON.

Clerk of Common Council.

HOSEA HYDE.

City Treasurer and Collector of Taxes.

¹EDWARD J. COLLINS.

²JOHN A. KENRICK.

City Clerk and Clerk of Board of Aldermen.

EDWIN O. CHILDS.

City Auditor and Clerk of Committees.

BENJAMIN F. OTIS.

City Solicitor.

PETER THACHER.

City Engineer.

ALBERT F. NOYES.

Overseer of Highways.

WILLIAM E. FULLER.

Water Registrar.

³MOSES CLARK, JR.

⁴ALBERT S. GLOVER.

Superintendent of Water Works.

H. N. HYDE, JR.

City Messenger.

JOSEPH D. WELLINGTON.

¹ Deceased, July, 1879.

² Elected by the City Council, July 26, 1879.

³ Resigned in June, 1879.

⁴ Elected by City Council, July, 1879.

ASSESSORS' DEPARTMENT.

Assessors.

ISAAC HAGAR, *Chairman*, Term expires January, 1880.
 HOWARD B. COFFIN, *Secretary*, . . Term expires January, 1881.
 SAMUEL M. JACKSON, Term expires January, 1882.

Assistant Assessors.—Elected Annually.

Ward 1.—ORRIN WHIPPLE. Ward 4.—J. J. RIDER.
 “ 2.—JOSEPH WALKER. “ 5.—S. N. WOODWARD.
 “ 3.—OSCAR F. LUCAS. “ 6.—GEORGE WARREN.
 Ward 7.—JOHN WARNER.

SCHOOL COMMITTEE.

WILLIAM B. FOWLE, *Mayor, Chairman, ex-officio*.
 JOHN Q. HENRY, *President Common Council, ex-officio*.
 REV. AMOS E. LAWRENCE, *Chairman*.
 ISAAC HAGAR, *Secretary*.
 EPHRAIM HUNT, LL.D., *Superintendent*.

ELECTIVE MEMBERS.		PRESENT TERM OF OFFICE.
Ward 1.—	THOMAS S. SAMSON, ¹	Expires January, 1880.
	HENRY E. COBB, ¹	Expires January, 1880.
“ 2.—	HENRY O. MARTIN,	Expires January, 1880.
	HORATIO S. NOYES,	Expires January, 1880.
“ 3.—	JULIUS L. CLARK,	Expires January, 1882.
	ELIJAH W. WOOD,	Expires January, 1882.
“ 4.—	WILLIAM S. SMITH,	Expires January, 1882.
	ISAAC HAGAR,	Expires January, 1882.
“ 5.—	JOHN A. GOULD,	Expires January, 1881.
	CHARLES E. ABBOTT,	Expires January, 1881.
“ 6.—	JAMES S. NEWELL,	Expires January, 1881.
	AMOS E. LAWRENCE,	Expires January, 1881.
“ 7.—	GEORGE W. SHINN,	Expires January, 1881.
	LINCOLN R. STONE,	Expires January, 1882.

¹ Elected in joint convention of City Council and School Committee.

District Committees.

NEWTON-CENTRE DISTRICT.

JAMES S. NEWELL,	. . . .	Newton Centre.
AMOS E. LAWRENCE,	. . . .	Newton Centre.
JOHN A. GOULD,	. . . .	Newton Upper Falls.
CHARLES E. ABBOTT,	. . . .	Newton Highlands.
GEORGE W. SHINN,	. . . .	Newton.

UPPER-FALLS DISTRICT.

JOHN A. GOULD,	. . . .	Newton Upper Falls.
CHARLES E. ABBOTT,	. . . .	Newton Highlands.
JAMES S. NEWELL,	. . . .	Newton Centre.
AMOS E. LAWRENCE,	. . . .	Newton Centre.
ISAAC HAGAR,	. . . .	Newton Lower Falls.

LOWER-FALLS DISTRICT.

WILLIAM S. SMITH,	. . . .	Auburndale.*
ELIJAH W. WOOD,	. . . .	West Newton.
ISAAC HAGAR,	. . . .	Newton Lower Falls.

WEST-NEWTON DISTRICT.

JULIUS L. CLARK,	. . . .	West Newton.
HORATIO S. NOYES,	. . . .	Newtonville.
ELIJAH W. WOOD,	. . . .	West Newton.
WILLIAM S. SMITH,	. . . .	Auburndale.
HENRY O. MARTIN,	. . . .	Newtonville.

NEWTONVILLE DISTRICT.

HORATIO S. NOYES,	. . . .	Newtonville.
HENRY O. MARTIN,	. . . .	Newtonville.
LINCOLN R. STONE,	. . . .	Newton.
THOMAS S. SAMSON,	. . . .	Newton.
HENRY E. COBB,	. . . .	Newton.

NEWTON DISTRICT.

LINCOLN R. STONE,	. . . .	Newton.
HENRY E. COBB,	. . . .	Newton.
GEORGE W. SHINN,	. . . .	Newton.
JOHN Q. HENRY,	. . . .	Newton.
THOMAS S. SAMSON,	. . . .	Newton.

Standing Committees of the Board.

High School. — Amos E. Lawrence, Thomas S. Samson, Horatio S. Noyes, Julius L. Clark, William S. Smith, John A. Gould, George W. Shinn, Mayor, *ex-officio*.

Rules and Regulations. — George W. Shinn, Henry E. Cobb, Charles E. Abbott.

Accounts and Printing. — Isaac Hagar, Elijah W. Wood, Julius L. Clarke.

School-houses. — Isaac Hagar, John A. Gould, Lincoln R. Stone.

Salaries. — James S. Newell, John Q. Henry, Henry O. Martin.

Text-Books. — Amos E. Lawrence, William S. Smith, Julius L. Clarke.

Music. — Amos E. Lawrence, Lincoln R. Stone, Elijah W. Wood.

Drawing and Writing. — Horatio S. Noyes, John Q. Henry, Thomas S. Samson.

Industrial Drawing. — James S. Newell, Charles E. Abbott, Henry O. Martin.

Evening Schools. — Geo. W. Shinn, Lincoln R. Stone, Henry E Cobb.

POOR DEPARTMENT.

Board of Overseers.

THE MAYOR, *ex-officio* Chairman.

Ward 1. — CHARLES F. RAND, Ward 4. — ISAAC W. BIRD.

“ 2. — AUSTIN T. SYLVESTER. “ 5. — HOSEA C. HOYT.

“ 3. — OSCAR F. LUCAS. “ 6. — GEORGE WARREN.

Ward 7. — JOHN WARNER.

JOHN WARNER, *Clerk of Board.*

JOHN WARNER, *City Almoner,*

NATHANIEL D. MOODY, *Warden of Almshouse.*

FIRE DEPARTMENT.

HENRY L. BIXBY, *Chief Engineer.*

WILLIAM BEMIS, *Assistant Engineer.*

TRUSTEES OF PUBLIC LIBRARY.

From the Board of Aldermen.

GEORGE D. ELDRIDGE.

From the Common Council.

NATHAN MOSMAN.

At Large.

GEORGE H. JONES.

REV. B. K. PEIRCE, D.D.

JOHN S. FARLOW.

HON. JAMES F. C. HYDE.

HON. JULIUS L. CLARKE.

GEORGE H. JONES, *President*.

REV. B. K. PIERCE, D.D., *Superintendent*.

HANNAH P. JAMES, *Librarian*.

POLICE DEPARTMENT.

RIVILO L. HINDS, *City Marshal*.

CHARLES O. DAVIS, *Sergeant of Police*.

Police Officers.

JAMES D. HENTHORN.

JOHN RYAN.

GEORGE W. RIGBY.

CHARLES P. HEUSTIS.

WILLIAM C. EMERSON.

ROBERT S. HARRISON.

NOAH F. BOSWORTH.

CHARLES E. DAVIS.

GEORGE E. F. BAKER.

GEORGE H. MARSH.

CHARLES F. RICHARDSON.

CHARLES S. BOOTHBY.

EDWIN G. HURD.

WARD OFFICERS.

WARD ONE.

Warden, JOHN M. FISK; *Clerk*, CHARLES A. DREW; *Inspectors*, JOHN E. BUTLER, SAMUEL W. KENDALL, GEORGE B. ULLMAN.

WARD TWO.

Warden, GEORGE E. BRIDGES; *Clerk*, R. P. GOULD; *Inspectors*, HENRY P. DEARBORN, LAWRENCE H. CRANITCH, JAMES D. BILLINGS.

WARD THREE.

Warden, STEPHEN THACHER; *Clerk*, WILLIAM E. BARKER; *Inspectors*, FRANK E. HUNTER, THOMAS B. FITZ, OSCAR F. LUCAS.

WARD FOUR.

Warden, JAMES H. DOLLIVER; *Clerk*, HENRY H. MATHER; *Inspectors*, CHAS. A. MOULTON, EUGENE B. BAKER, HENRY G. HILDRETH.

WARD FIVE.

Warden, WILLIAM S. GARGILL; *Clerk*, CHAS. H. NOYES; *Inspectors*, JOHN T. THOMASON, HARLEY A. SMITH, ARTHUR T. COTTRELL.

WARD SIX.

Warden, LEWIS E. COFFIN; *Clerk*, EDWARD H. MASON; *Inspectors*, FRANK EDMANDS, EDWARD A. ELLIS, SAMUEL M. JACKSON.

WARD SEVEN.

Warden, LYSANDER A. ELLIS; *Clerk*, HENRY B. WELLS; *Inspectors*, FREDERICK JACKSON, EDWIN M. GAY, J. EDWIN WARNER.

OFFICERS
OF THE
NEWTON CITY GOVERNMENT,
1880.

MAYOR.

ROYAL M. PULSIFER.

BOARD OF ALDERMEN.

DWIGHT CHESTER, *President*.

WARD ONE.

D. W. FARQUHAR.

WARD TWO.

J. WESLEY KIMBALL.

WARD THREE.

EDWARD R. SECCOMB.

WARD FOUR.

CHARLES C. BURR.

WARD FIVE.

JAMES R. DEANE.

WARD SIX.

DWIGHT CHESTER.

WARD SEVEN.

WILLIAM P. ELLISON.

COMMON COUNCIL.

CHARLES C. BARTON, *President*.

WARD ONE.

LEVI B. GAY.
EDWARD W. CATE.

WARD TWO.

AUSTIN R. MITCHELL.
GEORGE L. WHITNEY.

WARD THREE.

WILLIAM DIX.
HENRY A. INMAN.

WARD FOUR.

NATHAN MOSMAN.
WILLIAM C. STRONG.

WARD FIVE.

GEORGE E. WALES.
ALLISON O. SWETT.

WARD SIX.

CHARLES C. BARTON.
EDWARD B. BOWEN.

WARD SEVEN.

JOHN Q. HENRY.

EDWIN W. GAY.

Clerk of Common Council.

HOSEA HYDE.

City Treasurer and Collector of Taxes.

JOHN A. KENRICK.

City Clerk and Clerk of Board of Aldermen.

EDWIN O. CHILDS.

City Auditor and Clerk of Committees.

BENJAMIN F. OTIS.

City Solicitor.

PETER THACHER.

City Engineer.

ALBERT F. NOYES.

Superintendent of Streets.

WILLIAM E. FULLER.

Water Registrar.

ALBERT S. GLOVER.

Superintendent of Water Works.

H. N. HYDE, JR.

City Messenger.

JOSEPH D. WELLINGTON.

ASSESSORS' DEPARTMENT.

Assessors.

ISAAC HAGAR, *Chairman*, Term expires January, 1883.
HOWARD B. COFFIN, *Secretary*, . . . Term expires January, 1881.
SAMUEL M. JACKSON, Term expires January, 1882.

Assistant Assessors.—Elected Annually.

Ward 1.—ORRIN WHIPPLE.	Ward 4.—RUFUS MOULTON.
“ 2.—JOSEPH WALKER.	“ 5.—S. N. WOODWARD.
“ 3.—OSCAR F. LUCAS.	“ 6.—GEORGE WARREN.
Ward 7.—JOHN WARNER.	

SCHOOL COMMITTEE.

HON. ROYAL M. PULSIFER, *Mayor, Chairman, ex-officio.*
 CHARLES C. BARTON, *President Common Council, ex-officio.*
 REV. AMOS E. LAWRENCE, *Chairman.*
 ISAAC HAGAR, *Secretary,*
 EPHRAIM HUNT, LL.D., *Superintendent.*

ELECTIVE MEMBERS.	PRESENT TERM OF OFFICE.
Ward 1.—THOMAS S. SAMSON,	Expires January, 1883.
THOMAS MARCY,	Expires January, 1883.
“ 2.—E. FRANK HOWE,	Expires January, 1883.
A. AMELIA SMEAD,	Expires January, 1883.
“ 3.—JULIUS L. CLARK,	Expires January, 1882.
ELIJAH W. WOOD,	Expires January, 1882.
“ 4.—WILLIAM S. SMITH,	Expires January, 1882.
ISAAC HAGAR,	Expires January, 1882.
“ 5.—JOHN A. GOULD,	Expires January, 1881.
CHARLES E. ABBOTT,	Expires January, 1881.
“ 6.—JAMES S. NEWELL,	Expires January, 1881.
AMOS E. LAWRENCE,	Expires January, 1881.
“ 7.—GEORGE W. SHINN,	Expires January, 1881.
LINCOLN R. STONE,	Expires January, 1882.

District Committees.

NEWTON-CENTRE DISTRICT.

JAMES S. NEWELL,	Newton Centre.
AMOS E. LAWRENCE,	Newton Centre.
JOHN A. GOULD,	Newton Upper Falls.
CHARLES E. ABBOTT,	Newton Highlands.
CHARLES C. BARTON,	Newton Centre.

UPPER-FALLS DISTRICT.

JOHN A. GOULD,	Newton Upper Falls.
CHARLES E. ABBOTT,	Newton Highlands.
JAMES S. NEWELL,	Newton Centre.
AMOS E. LAWRENCE,	Newton Centre.
ISAAC HAGAR,	Newton Lower Falls.

LOWER-FALLS DISTRICT.

WILLIAM S. SMITH,	.	.	.	.	Auburndale.
ELIJAH W. WOOD,	.	.	.	.	West Newton.
ISAAC HAGAR,	.	.	.	.	Newton Lower Falls.

WEST-NEWTON DISTRICT.

JULIUS L. CLARK,	.	.	.	.	West Newton.
E. FRANK HOWE,	.	.	.	.	Newtonville.
ELIJAH W. WOOD,	.	.	.	.	West Newton.
WILLIAM S. SMITH,	.	.	.	.	Auburndale.
A. AMELIA SMEAD,	.	.	.	.	Newtonville.

NEWTONVILLE DISTRICT.

E. FRANK HOWE,	.	.	.	.	Newtonville.
A. AMELIA SMEAD,	.	.	.	.	Newtonville.
LINCOLN R. STONE,	.	.	.	.	Newton.
THOMAS S. SAMSON,	.	.	.	.	Newton.
THOMAS MARCY,	.	.	.	.	Newton.

NEWTON DISTRICT.

LINCOLN R. STONE,	.	.	.	.	Newton.
THOMAS MARCY,	.	.	.	.	Newton.
GEORGE W. SHINN,	.	.	.	.	Newton.
E. FRANK HOWE,	.	.	.	.	Newtonville.
THOMAS S. SAMSON,	.	.	.	.	Newton.

Standing Committees of the Board.

High School.— Amos E. Lawrence, Thomas S. Samson, E. Frank Howe, Elijah W. Wood, William S. Smith, John A. Gould, George W. Shinn, Mayor, *ex-officio*.

Rules and Regulations.— George W. Shinn, Thomas S. Samson, Charles E. Abbott.

Accounts and Printing.— Isaac Hagar, Elijah W. Wood, Julius L. Clarke.

Schoolhouses.— Isaac Hagar, John A. Gould, Lincoln R. Stone.

Salaries.— James S. Newell, Charles C. Barton, E. Frank Howe.

Text-Books.— Amos E. Lawrence, William S. Smith, Julius L. Clarke.

Music.— Amos E. Lawrence, Lincoln R. Stone, A. Amelia Smead.

Drawing and Writing.— Charles C. Barton, A. Amelia Smead, Thomas Marcy.

Industrial Drawing.— James S. Newell, Charles E. Abbott, Elijah W. Wood.

Evening Schools.— George W. Shinn, Lincoln R. Stone, Thomas Marcy.

POOR DEPARTMENT.

Board of Overseers.

THE MAYOR, *ex-officio*, *Chairman*.

Ward 1. — CHARLES F. RAND. Ward 4. — BENJAMIN BOURNE.

“ 2. — OLIVER B. LEAVITT. “ 5. — HOSEA C. HOYT.

“ 3. — OSCAR F. LUCAS. “ 6. — GEORGE WARREN.

Ward 7. — JOHN WARNER.

JOHN WARNER, *Clerk of Board*.JOHN WARNER, *City Almoner*.NATHANIEL D. MOODY, *Warden of Almshouse*.

FIRE DEPARTMENT.

HENRY L. BIXBY, *Chief Engineer*.WILLIAM BEMIS, *Assistant Engineer*.

TRUSTEES OF PUBLIC LIBRARY.

From the Board of Aldermen.

JAMES R. DEANE, M. D.

From the Common Council.

NATHAN MOSMAN.

At Large.

GEORGE H. JONES.

REV. B. K. PIERCE, D.D.

JOHN S. FARLOW.

HON. JAMES F. C. HYDE.

HON. JULIUS L. CLARKE.

GEORGE H. JONES, *President*.REV. B. K. PIERCE, D.D., *Superintendent*.HANNAH P. JAMES, *Librarian*.

POLICE DEPARTMENT.

RIVILO L. HINDS, *City Marshal*.CHARLES F. RICHARDSON, *Sergeant of Police*.

Police Officers.

JAMES D. HENTHORN.

JOHN RYAN.

WILLIAM C. EMERSON.

CHARLES P. HEUSTIS.

NOAH F. BOSWORTH.

ROBERT S. HARRISON.

GEORGE E. F. BAKER.

CHARLES E. DAVIS.

CHARLES O. DAVIS.

GEORGE H. MARSH.

EDWIN G. HURD.

CHARLES S. BOOTHBY.

R. ORLANDO EVANS.

FRANK B. FLETCHER.

WARD OFFICERS.

WARD ONE.

Warden, JOHN M. FISK; *Clerk*, CHARLES A. DREW; *Inspectors*, IRA S. FRANKLIN, DEXTER WHIPPLE, HIRAM S. CATE.

WARD TWO.

Warden, GEORGE E. BRIDGES; *Clerk*, R. P. GOULD; *Inspectors*, HENRY P. DEARBORN, LAWRENCE H. CRANITCH, JAMES D. BILLINGS.

WARD THREE.

Warden, GEORGE H. INGRAHAM; *Clerk*, CHARLES L. CLARK, *Inspectors*, GEORGE DIX, THOMAS B. FITZ, SAMPSON R. URBINO.

WARD FOUR.

Warden, CHARLES A. MOULTON; *Clerk*, HENRY H. MATHER; *Inspectors*, BERNARD EARLY, EUGENE B. BAKER, JOHN P. R. SHERMAN.

WARD FIVE.

Warden, ALBERT I. GROVER; *Clerk*, ELLIOTT J. HYDE; *Inspectors*, JOHN T. THOMASON, HARLEY A. SMITH, FRANK CLEMENT.

WARD SIX.

Warden, EDWARD H. MASON; *Clerk*, GEORGE G. GAMMANS; *Inspectors*, FRANK EDMANDS, CHARLES S. YOUNG, SAMUEL M. JACKSON.

WARD SEVEN.

Warden, FREDERICK JACKSON; *Clerk*, J. EDWIN WARNER; *Inspectors*, HOSEA HYDE, JAMES W. FRENCH, CHARLES W. BASSETT.

JOINT STANDING COMMITTEES OF THE CITY COUNCIL.

Committee on Finance and Salaries.

Alderman William P. Ellison.

Alderman Edward R. Seccomb.

President Charles C. Barton.

Councilman John Q. Henry.

Councilman George E. Wales.

Committee on Accounts.

Alderman David W. Farquhar.

Councilman Edward W. Cate.

Councilman Henry A. Inman.

Committee on Public Property and Burial Grounds.

Alderman Edward R. Seccomb.

Councilman Austin R. Mitchell.

Councilman Levi B. Gay.

Committee on State Aid, Soldiers' Relief and Military Affairs.

Alderman James R. Deane.

Councilman Edwin W. Gay.

Councilman Austin R. Mitchell.

Committee on Fuel and Street Lights.

Alderman William P. Ellison.

Councilman William Dix.

Councilman Edward B. Bowen.

Committee on Fire Department.

Alderman J. Wesley Kimball.

Alderman David W. Farquhar.

Councilman Edward B. Bowen.

Councilman William Dix.

Councilman William C. Strong.

Committee on Highways.

Alderman Charles C. Burr.

Alderman Dwight Chester.

Councilman John Q. Henry.

Councilman William C. Strong.

Councilman George L. Whitney.

Committee on Printing.

Alderman Dwight Chester.

Councilman Allison O. Swett.

Councilman Edwin W. Gay.

Committee on Ordinances.

Alderman Charles C. Burr.

Alderman Dwight Chester.

Councilman Edward B. Bowen.

Councilman Edwin W. Gay.

Councilman Austin R. Mitchell.

Committee on Claims.

Alderman Dwight Chester.

Alderman David W. Farquhar.

President Charles C. Barton.

Councilman Nathan Mosman.

Councilman Levi B. Gay.

Committee on Water.

Alderman William P. Ellison.

Alderman J. Wesley Kimball.

Councilman Nathan Mosman.

Councilman George E. Wales.

Councilman Edward W. Cate.

Committee on Almshouse and Poor.

Alderman James R. Deane.

Councilman George L. Whitney.

Councilman Henry A. Inman.

Committee on Assessors' Department.

Alderman David W. Farquhar.

Councilman Allison O. Swett.

Councilman Austin R. Mitchell.

Highway Surveyors.

Alderman Charles C. Burr. Alderman Dwight Chester.
 Alderman J. Wesley Kimball.
 Councilman John Q. Henry. Councilman William C. Strong.

STANDING COMMITTEES OF THE BOARD OF ALDERMEN.

Committee on Elections and Returns.

Alderman David W. Farquhar. Alderman J. Wesley Kimball.

Committee on Enrolled Ordinances and Resolutions.

Alderman Dwight Chester. Alderman James R. Deane.

STANDING COMMITTEES OF THE MAYOR AND ALDERMEN.

Committee on Police.

The MAYOR.

Alderman William P. Ellison. Alderman Edward R. Seccomb.

Committee on Streets and Ways, Sidewalks, Drains and Sewers.

Alderman Charles C. Burr. Alderman Dwight Chester.
 Alderman J. Wesley Kimball.

Committee on Licenses, Weights and Measures.

Alderman J. Wesley Kimball. Alderman James R. Deane.

STANDING COMMITTEE OF THE BOARD OF HEALTH.

Alderman Edward R. Seccomb. Alderman James R. Deane.

STANDING COMMITTEES OF THE COMMON COUNCIL.

Councilman Henry A. Inman. Councilman George L. Whitney.

Committee on Enrolled Ordinances and Resolutions.

Councilman Levi B. Gay.

Committee on Judiciary.

Councilman Edward W. Cate. Councilman John Q. Henry.
 Councilman William Dix.

Committee on Appropriations.

Councilman Nathan Mosman. Councilman Allison O. Swett.
 Councilman William C. Strong.

Committee on Highways.

Councilman John Q. Henry. Councilman William C. Strong.
 Councilman George L. Whitney.

AUDITOR'S REPORT,

CITY OF NEWTON.

AUDITOR'S DEPARTMENT,

MARCH 1, 1880.

TO THE HONORABLE CITY COUNCIL:

Gentlemen, — The undersigned, Auditor of Accounts, herewith presents his Annual Report of the receipts and expenditures for the financial year, ending December 31, 1879, it being made to comply with the Eleventh Section of the Ordinance in relation to Finance, with other information relating to the financial matters of the city.

Respectfully submitted,

BENJAMIN F. OTIS, *Auditor.*

CITY TREASURER'S ACCOUNT.

THE CITY OF NEWTON IN ACCOUNT WITH JOHN A. KENRICK,
Treasurer and Collector.

Dr.

To Cash Paid as per following Accounts :

Almshouse Expenses and Repairs,	\$3,247 11
Armory Rent,	1,313 23
Books, Stationery and Printing,	2,349 33
Burial Grounds,	94 25
Conveyance of Pupils,	650 00
Curbing,	499 45
Concrete Sidewalks,	1,799 02
City Clerk's Salary,	1,650 00
City Hall, Fuel, Lights, and Contingent Expenses,	2,482 41
City Engineer's Department,	2,939 50
Drains and Culverts,	11,111 67
Evening Schools,	346 22
Fire Department,	23,534 93
General Appropriation for Schools,	71,389 68
Gravel Land,	2,812 04
Highways, General Repairs,	48,040 76
<i>Amount carried forward,</i>	<u>\$174,259 60</u>

<i>Amount brought forward,</i>	\$174,259 60
Highways, Widening, and Improvements,	5,362 63
Improvements on Public Squares,	500 00
Indigent Soldiers and Sailors,	651 19
Industrial and Mechanical Drawing,	297 50
Interest on City Loans,	27,237 73
Interest on Water Bonds,	45,500 00
Land Damages,	550 00
Lighting Streets,	20,293 03
Memorial Day,	300 00
Miscellaneous Expenses,	5,729 52
Newton Free Library,	7,223 39
Police Department,	15,486 05
Poor out of Almshouse,	7,945 79
Public Property,	8,507 42
Salaries,	10,891 96
School Incidentals and Repairs,	8,569 47
Sinking Fund on City Debt,	12,250 00
Sinking Fund on Water Bonds,	12,750 00
State Aid,	1,274 00
Use of Hydrants,	5,000 00
Water Department,	8,489 32
Water Department for Meters and Service Pipes,	4,514 36
Water Construction,	42,542 06
Board of Health,	13,663 62
Commonwealth of Massachusetts, Na- tional Bank Tax,	897 19
Commonwealth of Massachusetts, State Tax,	8,040 00
County of Middlesex, Tax for 1879,	11,615 58
Funded Debt Permanent Loan,	30,000 00
Kenrick Fund,	180 00
Newton Free Library Catalogue Account,	230 74
Overlay and Abatement, 1877,	276 08
Overlay and Abatement, 1878,	1,241 92
Overlay and Abatement, 1879,	1,752 44
<i>Amount carried forward,</i>	<hr/> \$494,022 59

<i>Amount brought forward,</i>	\$494,022 59	
State Aid under Chapter 252, Acts 1879,	159 00	
Temporary Loans,	180,000 00	
Balance in the Treasury December 31, 1879,	56,614 73	
	<hr/>	\$730,796 32

Cr.

By Cash Received as per following Accounts :

Balance in the Treasury December 31, 1878,	\$77,275 60	
Almshouse,	1,205 36	
Armory,	400 00	
Board of Health,	18 50	
Books, Stationery, and Printing,	2 05	
City Clerk's Fees,	186 75	
City Hall,	1,132 50	
Corporation Tax,	17,689 48	
Criminal Fees,	600 00	
Dog Tax,	1,014 30	
Fire Department,	17 78	
Funded Debt Water Scrip,	45,000 00	
Highways,	4,128 85	
Interest on Deposits,	568 49	
Interest on Taxes,	2,870 99	
Interest on Water Scrip,	983 34	
Kenrick Fund,	641 29	
National Bank Tax,	10,127 98	
Non-Resident Pupils, *	397 00	
Premium on Water Scrip,	2,250 00	
Poor out of Almshouse,	1,631 07	
Public Property,	4,293 58	
Sidewalks and Curbing,	877 88	
Sinking Fund Commissioners of the City		
Debt,	30,000 00	
State Aid,	1,300 00	
	<hr/>	
<i>Amount carried forward,</i>	\$204,612 79	

<i>Amount brought forward,</i>	\$204,612 79
Suspense Account,	168 02
Taxes, 1874,	9 10
Taxes, 1875,	46 98
Taxes, 1876,	121 30
Taxes, 1877,	1,718 43
Taxes, 1878,	58,720 69
Taxes, 1879,	274,743 52
Temporary Loans,	160,000 00
Water Construction,	361 29
Water Rates,	22,219 80
Water Rates by Meter,	4,935 72
Water Maintenance, Meters and Service Pipes,	3,138 68
	<hr/> \$730,796 32

JOHN A. KENRICK,
Treasurer and Collector,

City of Newton.

NEWTON, December 31, 1879.

CITY OF NEWTON,

In Committee, January 2, 1880.

The joint Standing Committee on Finance having attended to their duty, as required by Section 13 of Ordinance No. 4, beg leave to report that they have examined the books and accounts of the Treasurer and Collector, for the financial year of 1879, and find that they are correctly and carefully kept in every particular, as usual, and all the payments are properly vouched, up to December 1, 1879, which is as far as the Committee have been able to examine the vouchers.

That the total cash receipts of the year ending Dec.

31, 1879, were,	\$653,520 72
Add cash on hand, Dec. 31, 1878,	77,275 60
	<hr/> \$730,796 32
And the payments of the year were,	674,181 59

Leaving on hand at close of business, Dec. 31, 1879,	<hr/> \$56,614 73
------------------------------------------------------	-------------------

which balance of \$56,614.73 has been verified by examination of the Bank Balances to the credit of the City, and cash, and cash items in the office.

They further report that there remains due and uncollected the following taxes and assessments :

Taxes for 1871,	\$35 84	
“ 1872,	108 39	
“ 1873,	190 70	
“ 1874,	2,511 16	
“ 1875,	3,539 65	
“ 1876,	4,324 25	
“ 1877,	2,144 04	
“ 1878,	1,319 29	
“ 1879,	53,087 44	
Sidewalk and Curbing Assessments,	128 44	
	<hr/>	\$67,389 20

Respectfully submitted,

W. B. FOWLE,	} <i>Finance</i> <i>Committee.</i>
J. Q. HENRY,	
W. W. KEITH,	
GEO. S. BULLENS,	
WILLIAM P. ELLISON,	
CHAS. C. BARTON,	
JOS. W. STOVER,	

LIABILITIES OF THE CITY OF NEWTON TO DECEMBER 31, 1879, INCLUSIVE.

Water Loan,	\$835,000 00	
Accrued Interest on same,	23,875 00	
	<hr/>	\$858,875 00
Town and City Notes,	\$323,000 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$323,000 00	\$858,875 00

<i>Amounts brought forward,</i>	\$323,000 00	\$858,875 00
Accrued Interest on same,	4,238 72	
	<hr/>	327,238 72
Municipal Bonds,	\$34,000 00	
Accrued Interest on same,	850 00	
	<hr/>	34,850 00
Temporary Loan,	\$60,000 00	
Accrued Interest on same,	240 00	
	<hr/>	60,240 00
Uninvested portion of Principal of Ken- rick Fund,	\$1,500 00	
Interest on the same,	75 00	
	<hr/>	1,575 00
Mayor's Warrants unpaid,		32,779 12
		<hr/>
		\$1,315,557 84

DETAILED STATEMENT OF ASSETS.

Balance of Taxes, 1871,	\$35 84	
“ 1872,	108 39	
“ 1873,	190 70	
“ 1874,	2,511 16	
“ 1875,	3,539 65	
“ 1876,	4,324 25	
“ 1877,	2,144 04	
“ 1878,	1,319 29	
“ 1879,	53,087 44	
	<hr/>	\$67,260 76
Due from Commonwealth of Massachu- setts, as follows :		
State aid furnished in 1879 and pre- vious years,	2,000 00	
Balance of Corporation Tax,	380 33	
Armory rent for 1879,	400 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$70,041 09	\$1,315,557 84

<i>Amounts brought forward,</i>	\$70,041 09	\$1,315,557 84
Due from County Treasurer :		
Dog Tax for 1879,	712 50	
Due from miscellaneous sources, viz. :		
From sundry persons for Sidewalks and Curbing,	700 00	
From D. C. Morgan for Rent of House connected with Engine House, Ward 7,	300 00	
From sundry persons for Betterments on Drain in Wards 1 and 2,	8,342 55	
Cash on hand :		
City account,	\$52,110 27	
Water construction,	4,504 46	
	<u> </u>	\$56,614 73

Sinking Funds.

Water Loan Sinking Fund		
Water Bonds,	\$47,000 00	
Cash on hand,	1,962 78	
	<u> </u>	\$48,962 78
City Debt Sinking Fund		
Water Bonds,	\$8,000 00	
Cash on hand,	\$3,445 98	
Loaned on call, U. S. Bonds as Collateral,	10,000 00	
	<u> </u>	\$21,445 98
		<u> </u>
		\$207,119 63
		<u> </u>
		\$1,108,438 21

RECAPITULATION.

Water Debt.

Water Loan,	\$835,000 00
Accrued Interest on same,	23,875 00
	<u> </u>
<i>Amount carried forward,</i>	\$858,875 00

<i>Amount brought forward,</i>	\$858,875 00	
Mayor's Warrants unpaid for construction,	4,787 69	
	<hr/>	\$863,662 69
Cash on hand for Construction,	\$4,504 46	
Sinking Fund,	48,962 78	
	<hr/>	\$53,467 24
Net Water Liability,		<hr/> \$810,195 45

City Debt Exclusive of Water Debt.

Town and City Notes,	\$323,000 00	
Accrued Interest on same,	4,238 72	
	<hr/>	\$327,238 72
Municipal Bonds,	\$34,000 00	
Accrued Interest on same,	850 00	
	<hr/>	34,850 00
Temporary Loan,	\$60,000 00	
Accrued Interest on same,	240 00	
	<hr/>	60,240 00
Uninvested portion of principal of Kenrick Fund,	\$1,500 00	
Interest on same,	75 00	
	<hr/>	1,575 00
Mayor's Warrants unpaid,		27,991 43
		<hr/> \$451,895 15
Cash on hand,	\$52,110 27	
Sinking Fund,	21,445 98	
Balance Taxes uncollected,	67,260 76	
Other Assets uncollected,	12,835 38	
	<hr/>	153,652 39
Net City Liability,		<hr/> \$298,242 76

RECEIPTS.

The Receipts for the year ending December 31, 1879, are shown in the aggregates, as credited in the following accounts:—

No. of Account.		
1.	Almshouse,	\$1,205 36
2.	Armory,	400 00
3.	Board of Health,	18 50
4.	Books, Stationery and Printing,	2 05
5.	City Clerk's Fees,	186 75
6.	City Hall,	1,132 50
7.	Corporation Tax,	17,689 48
8.	Criminal Fees,	600 00
9.	Dog Tax,	1,014 30
10.	Fire Department,	17 78
11.	Funded Debt Water Bonds,	45,000 00
12.	Highway Department,	4,128 85
13.	Interest on Deposits,	568 49
14.	Interest on Taxes,	2,870 99
15.	Interest on Water Bonds,	983 34
16.	Kenrick Fund Income,	1,736 07
17.	National Bank Tax,	10,127 98
18.	Non-Resident Pupils,	397 00
19.	Premium on Water Bonds,	2,250 00
20.	Poor out of Almshouse,	1,631 07
21.	Public Property,	4,293 58
22.	Sidewalks and Curbing,	877 88
23.	Sinking Fund Commissioners, City Debt,	30,000 00
24.	State Aid,	1,300 00
25.	Suspense Account,	168 02
26.	Taxes, 1874,	9 10
27.	“ 1875,	46 98
28.	“ 1876,	121 30
29.	“ 1877,	1,718 43
30.	“ 1878,	58,720 69
31.	“ 1879,	274,743 52
32.	Temporary Loans,	160,000 00
33.	Water Construction,	361 29
34.	Water Rates,	22,219 80
35.	“ “ by Meter,	4,935 72
36.	Water Maintenance, Meters and Service Pipes,	3,138 68
. Total Receipts,		<hr/> \$654,615 50

EXPENSES.

The Claims for the year ending December 31, 1879, as approved and drawn for in the Auditor's office, are shown in the aggregates as charged to the following accounts:—

No.		
1.	Almshouse Expenses and Repairs,	\$2,853 45
2.	Armory Rent and Expenses,	1,216 23
3.	Books, Stationery, and Printing,	2,430 64
4.	Burial Grounds,	94 25
5.	Board of Health,	17,866 56
6.	Conveyance of Pupils,	850 00
7.	Curbing,	499 45
8.	Concrete Sidewalks,	1,799 02
9.	City Clerk's Salary,	1,800 00
10.	City Hall, Fuel, Lights, and Contingent Expenses,	2,237 19
11.	City Engineer's Department,	2,999 48
12.	Drains and Culverts,	8,461 04
13.	Evening Schools,	426 53
14.	Fire Department,	22,610 69
15.	Gravel Land,	2,712 85
16.	Highways, General Repairs,	46,246 07
17.	Highways, Widening and Improvements,	3,591 89
18.	Industrial and Mechanical Drawing,	227 50
19.	Interest on City Loans, Temporary and Permanent,	27,282 51
20.	Interest on Water Bonds,	45,500 00
21.	Indigent Soldiers and Sailors,	651 19
22.	Kenrick Fund Income,	180 00
23.	Land Damages,	300 00
24.	Lighting Streets,	19,874 35
25.	Memorial Day,	300 00
26.	Miscellaneous Expenses,	6,431 59
27.	Newton Free Library,	6,963 79
28.	“ “ “ Publishing Catalogue (special),	953 24
29.	Police Department,	15,551 89
30.	Poor out of Almshouse,	8,246 42
31.	Public Property,	6,504 52
	<i>Amount carried forward,</i>	<u>\$257,662 34</u>

<i>Amount brought forward,</i>	\$257,662 34
32. Public Squares,	500 00
33. Salaries,	10,184 96
34. Sinking Fund, Water Bonds,	12,750 00
35. Sinking Fund, City Debt,	12,250 00
36. Schools, General Appropriation,	71,375 76
37. School Incidentals and Repairs,	9,380 29
38. State Aid,	1,276 00
39. State Aid, under Chapter 252, Acts of 1879,	210 00
40. Temporary Loans,	180,000 00
41. Taxes, State,	8,040 00
42. " County,	11,615 58
43. " National Bank,	897 19
44. Use of Hydrants,	5,000 00
45. Water Construction,	46,497 66
46. Water Maintenance,	8,841 20
47. Water Department, Meter and Service Pipe,	4,860 57
Total Expenses,	<hr/> \$641,341 55

Table Showing Appropriations, Transfers, Mayor's Warrants, Treasurer's Payments, Differences, Excess & Deficiency Account.

OBJECT OF APPROPRIATION.	Appropriation for 1873.	Transfers.	Total Appropriations.	Mayor's Warrants.	Treasurer's Payments.	Differences.	Excess and Deficiency Account.	
							Overdrawn.	Unexpen'd
1 Almshouse Expenses and Repairs,	3,500 00		\$3,500 00	\$2,853 45	\$3,247 11	\$393 66		\$646 55
2 Armory Rent and Expenses, -	1,200 00		1,200 00	1,216 23	1,313 23	97 00	\$16 23	
3 Books, Stationery and Printing, -	2,500 00		2,500 00	2,439 64	2,349 33	- 81 31		69 36
4 Burial Grounds, -	200 00		200 00	94 25	94 25			105 75
5 Conveyance of Pupils, -	900 00		900 00	850 00	650 00	- 200 00		50 00
6 Curbing, -	500 00		500 00	499 45	499 45			55
7 Concrete Sidewalks, -	1,800 00		1,800 00	1,799 02	1,799 02			98
8 City Clerk's Salary, -	1,800 00		1,800 00	1,800 00	1,650 00	- 150 00		
9 City Hall, Fuel, Lights and Contingent Expenses, -	2,500 00		2,500 00	2,237 19	2,482 41	245 22		262 81
10 City Engineer's Department, -	3,000 00		3,000 00	2,999 48	2,939 50	- 59 98		52
11 Drains and Culverts, -	8,500 00		8,500 00	8,461 04	11,111 67	2,650 63		38 96
12 Evening Schools, -	500 00		500 00	426 53	346 22	- 80 31		73 47
13 Fire Department, -	22,000 00		22,000 00	22,610 69	23,534 93	924 24	610 69	
14 General Appropriation for Schools, - \$72,150 00 } Dog Tax, - 1,014 30 }	73,164 30	\$1,380 29	71,784 01	71,375 76	71,389 68	13 92		408 25
15 Gravel Land, -	3,000 00		3,000 00	2,712 85	2,812 04	99 19		287 15
16 Highways, General Repairs, - \$35,000 00 } Special Appropriation 3,900 00 }	42,400 00		42,400 00	46,246 07	48,040 76	1,794 69	3,846 07	
17 Highways, Widening and Improvements, -	4,200 00		4,200 00	3,591 89	5,362 63	1,770 74		608 11
18 Industrial & Mechanical Drawing, -	300 00		300 00	227 50	297 50	70 00		72 50
19 Interest on City Loans, Temporary and Permanent, -	30,000 00		30,000 00	27,282 51	27,237 73	- 44 78		2,717 49
20 Indigent Soldiers and Sailors, -	500 00		500 00	651 19	651 19		151 19	
21 Interest on Water Bonds, -	45,500 00		45,500 00	45,500 00	45,500 00			
22 Improvements on Public Squares, -	500 00		500 00	500 00	500 00			

PERMANENT DEBT.—DESCRIPTIVE LIST.

	RATE.	DATE OF LOAN, ETC.	PAYABLE.	AMOUNT.	INTEREST, WHEN PAYABLE.
City Institution for Savings, Lowell,	6 per cent.	Oct. 2, 1867.	Oct. 2, 1884.	\$20,000 00	April and October.
" " " "	" "	Oct. 2, 1867.	Oct. 2, 1885.	20,000 00	" "
" " " "	" "	Oct. 2, 1867.	Oct. 2, 1886.	20,000 00	" "
" " " "	" "	Oct. 2, 1867.	Oct. 2, 1887.	20,000 00	" "
Commonwealth of Massachusetts,	6 " "	April 1, 1868.	April 1, 1886.	60,000 00	" "
" " " "	6½ " "	April 21, 1871.	April 21, 1888.	46,000 00	" "
" " " "	6 " "	April 22, 1870.	April 22, 1890.	20,000 00	" "
" " " "	6 " "	April 22, 1870.	April 22, 1892.	30,000 00	" "
" " " "	6 " "	March 9, 1875.	March 9, 1895.	47,000 00	" "
" " " "	6½ " "	April 1, 1872.	April 1, 1883.	40,000 00	March and Sept.
Boston Five Cents Savings Bank,	" "	July 1, 1875.	July 1, 1893.	34,000 00	June 16 and Dec. 16.
Municipal Bonds, \$1,000 each,	" "	July 1, 1875.	July 1, 1905.	600,000 00	January and July.
Water Bonds, \$1,000 each,	" "	July 1, 1875.	July 1, 1906.	235,000 00	" "
" " \$1,000 each,	" "			\$1,192,000 00	

STATEMENT OF THE KENRICK FUND.

The following is a statment of this Fund and its income,
January 1, 1880 :—

Amount invested,	\$2,500 00
Cash uninvested,	1,500 00
	<hr/>
Total Fund,	\$4,000 00
	<hr/>
Income received in 1879,	\$236,07
Amount distributed,	180 00
	<hr/>
Balance,	\$56 07

The distribution of the income of this Fund has been made
in accordance with the terms of the donor, to persons entitled
to its benefits.

TAXES AND TAXABLE VALUATION.

The following will show the valuation of the property of
the City, on which taxes were assessed for the year 1879, with
the amount of taxes and rate of taxation :—

Value of Real Estate,	\$17,456,655 00
Value of Personal Estate,	6,330,697 00
	<hr/>
	\$23,787,352 00
	<hr/>
Taxable Value of Corporate Stocks,	\$1,200,000 00
Taxable Value of Bank Stocks,	850,000 00
	<hr/>
	\$25,837,352 00
City Appropriations for Current Expenses,	\$367,850 00
Deduct Estimated Receipts for 1879,	65,475 00
	<hr/>
	\$302,375 00
State Tax,	8,040 00
County Tax,	11,615 58
Overlay and Supplementary Assessments,	4,929 06
	<hr/>
<i>Amount carried forward,</i>	\$326,959 64

<i>Amount brought forward,</i>	\$326,959 64
Assessment on Corporate Stocks,	15,445 40
Assessment on Bank Stocks,	10,127 98
Total Assessments,	<u>\$352,533 02</u>

Rate of Taxation, \$13 40 on \$1,000 00.

LEDGER BALANCES.

Cash, City Account,	\$52,110 27	
“ Water “	4,504 46	
Kenrick Fund,		\$1,556 07
Taxes, 1871,	35 84	
“ 1872,	108 39	
“ 1873,	190 70	
“ 1874,	2,511 16	
“ 1875,	3,539 65	
“ 1876,	4,324 25	
“ 1877,	2,144 04	
“ 1878,	1,319 29	
“ 1879,	53,087 44	
Suspense Account,		494 13
Trusted “		13 97
City of Newton,		400,790 70
Funded Debt, Water Scrip,		835,000 00
“ “ Permanent Loan,		323,000 00
“ “ City Bonds,		34,000 00
Temporary Loans,		60,000 00
Overlay and Abatement, 1878,		1,576 42
“ “ “ 1879,		2,918 31
Public Property, owned by the City,	732,970 00	
Water Construction, cost of Water to date,	830,495 54	
Mayor's Warrants, Unpaid Accounts of		
Appropriations,		27,991 43
	<u>\$1,687,341 03</u>	<u>\$1,687,341 03</u>

STATEMENT OF THE SINKING FUNDS.

SINKING FUND COMMISSIONERS IN ACCOUNT WITH CITY OF NEWTON.

Water Loan Sinking Fund.

1879.

Jan.	1.	Balance on hand, cash,	\$16,706 55	
		Newton 5 % Water Bonds,	19,000 00	
			<hr/>	\$35,706 55
		By Interest on Deposits for 1879,		249 70
		“ 6 months Interest on \$19,000, Newton		
		Water Bonds,		475 00
		By 6 months Interest on \$47,000, Newton		
		Water Bonds,		1,175 00
		Appropriation for 1879 by City of Newton,		12,750 00
			<hr/>	\$50,356 25

Dr.

1879.

Aug.	25.	Premium and accrued Interest paid on		
		\$13,000 of City of Newton Water		
		Bonds,		\$314 30

1879.

Dec.	9.	Premium and accrued Interest paid on		
		\$15,000 of City of Newton Water		
		Bonds,		1,079 17
			<hr/>	1,393 47

1880.

Jan.	1.	Balance on hand, cash,	\$1,962 78	
		City of Newton Water Bonds,	47,000 00	
			<hr/>	48,962 78
			<hr/>	\$50,356 25

City Debt Sinking Fund.

1879.

Jan.	1.	Balance on hand, cash,	\$16,927 83	
		Newton 5 % Water Bonds,	21,000 00	
			<hr/>	
		<i>Amount carried forward,</i>		\$37,927 83

<i>Amount brought forward,</i>		\$37,927 83
Jan. 1.	By Interest on Deposits for 1879,	228 85
	Interest and Premium on \$13,000 Water Bonds, sold,	314 30
	6 months Interest on \$21,000 Newton Water Bonds,	525 00
	6 months Interest on \$8,000 Newton Water Bonds,	200 00
	Appropriation for 1879 by City of Newton,	12,250 00
		<hr/> \$51,445 98

Dr.

1879.		
Aug. 25.	Paid City of Newton to take up note due this day,	\$30,000 00
1880.		
Jan. 1.	Balance on hand, cash,	\$3,445 98
	Newton Water Bonds,	8,000
	Loaned on call, U. S. Bonds as collateral,	10,000
		<hr/> 21,445 98
		<hr/> \$51,445 98

Respectfully submitted,

ALDEN SPEARE,	} <i>Sinking Fund</i>
GEORGE C. LORD,	
LUCIUS G. PRATT,	

Commissioners.

STATEMENT IN DETAIL OF RECEIPTS.

Alms-house.

Received for support of Sally Pierce,	\$104 00
" Sale of Hay,	452 39
" " Produce,	473 85
" " Wood, etc.,	101 12
" Board of J. Brimlieon's son,	74 00
	<hr/>
Total as per item No. 1 of receipts,	\$1,205 36

Armory.

Received from Commonwealth of Massachusetts for rent of Armory, as per item No. 2 of receipts,	\$400 00
---------------------------------------------------------------------------------------------------	----------

Board of Health.

Received from Boston and Albany Railroad refund of freight bill, as per item No. 3 of receipts,	\$18 50
----------------------------------------------------------------------------------------------------	---------

Books, Stationery, and Printing.

Received of M. R. Warren, refund of bill as per item No. 4 of receipts,	\$2 05
----------------------------------------------------------------------------	--------

City Clerk's Fees.

Received for Recording Mortgages, Marriage Cer- tificates, Assignments, etc., as per item No. 5 of receipts,	\$186 75
--------------------------------------------------------------------------------------------------------------------	----------

City Hall.

Received for use of Hall,	\$614 50	
“ of Amos Stone, Treasurer, County of Middlesex, for rent of Police Court Room,	500 00	
“ Sale of stove,	18 00	
	<hr/>	
Total, as per item No. 6 of receipts,		\$1,132 50

Corporation Tax.

Received from Commonwealth of Massachusetts, as per item No. 7 of receipts,	\$17,689 48
--------------------------------------------------------------------------------	-------------

Criminal Fees.

Received of E. W. Cate, Clerk of Police Court, Offi- cer's Fees, Fees for Witnesses, Fines and Costs, as per item No. 8 of receipts,	\$600 00
--------------------------------------------------------------------------------------------------------------------------------------------	----------

Dog Tax.

Received from Amos Stone, Treasurer, County of Middlesex, for Dog Tax, as per item No. 9 of receipts,		\$1,014 30
-------------------------------------------------------------------------------------------------------	--	------------

Fire Department.

Received from H. L. Bixby, for old material sold,	\$14 28	
“ for badge, lost,	3 50	
	<hr/>	
Total, as per item No. 10 of receipts,		\$17 78

Funded Debt, Water Bonds.

Received from Brewster, Bassett & Co., for thirty Water Bonds, \$1,000 each,	\$30,000 00	
“ from Commissioners of the Sinking Funds of the City of Newton, for fifteen Water Bonds, \$1,000 each,	15,000 00	
	<hr/>	
Total, as per item No. 11 of receipts, (see Nos. 15 and 19 of receipts for premium and accrued interest on the above.)		\$45,000 00

Highway Department.

Received from Fire Department for keeping and use of horses,	\$3,417 93	
“ Police Department for keeping and care of horse,	156 47	
“ Almshouse Department, for manure from City Stables, for 1878,	360 00	
“ Public Property Department, for labor of men and teams,	146 50	
“ W. E. Fuller, for sale of old iron, \$47.85, fuse, .10,	47 95	
	<hr/>	
Total, as per item No. 12 of receipts,		\$4,128 85

Interest.

Received from Newton National Bank on daily balances, as per item No. 13 of receipts,	\$568 49
---------------------------------------------------------------------------------------	----------

Interest on Taxes.

Received from sundry persons, Interest on Taxes, as per item No. 14 of receipts,	\$2,870 99
----------------------------------------------------------------------------------	------------

Interest on Water Bonds.

Received from Brewster, Bassett & Co., accrued Interest on 30 Water Bonds,	\$654 17	
“ Commissioners of the Sinking Funds of the City of Newton, accrued Interest on 15 Water Bonds,	329 17	
	<hr/>	
Total, as per item No. 15 of receipts,		\$983 34

Kenrick Fund Income.

Balance uninvested, Jan. 1, 1879, in City Treasury,	\$1,000 00	
Received of principal, June 13,	500 00	
Balance of Income on hand, Jan. 1, 1879,	50 00	
Income from Investments,	141 29	
Received from City of Newton, interest on uninvested portion of fund,	44 78	
	<hr/>	
Total, as per item No. 16 of receipts,		\$1,736 07

Expended.

Distributed per order Board of Aldermen, as per item No. 22 of expenses,	\$180 00	
Balance income on hand,	56 07	
	<hr/>	
		236 07
		<hr/>
Balance uninvested, January 1, 1880,		\$1,500 00

National Bank Tax.

Received from Commonwealth of Massachusetts,
National Bank Tax, as per item No. 17 of receipts, \$10,127 98

Non-Resident Pupils.

Received from sundry Non-Residents, for Tuition, as
per item No. 18 of receipts, \$397 00

Premium on Water Bonds.

Received from Brewster, Bassett & Co., 5 % premium on thirty Water Bonds, \$1,000 each,	\$1,500 00
“ Commissioners of the Sinking Funds of the City of Newton, 5 % premium on fifteen Water Bonds, \$1,000 each,	750 00
Total, as per item No. 19 of receipts,	<hr/> \$2,250 00

Poor out of Almshouse.

Rec'd from Commonwealth of Massachu- setts for partial support, etc., of sundry persons,	\$1,018 93
“ City of Boston, partial support of sundry persons,	242 89
“ City of Lynn, partial support of sundry persons,	36 46
“ City of Gloucester, partial sup- port of sundry persons,	24 00
“ City of Chelsea, partial sup- port of sundry persons,	6 98
“ Town of Petersham, partial support of sundry persons,	71 80
“ Town of Waltham, partial sup- port of sundry persons,	56 01
<i>Amount carried forward,</i>	<hr/> \$1,457 07

<i>Amount brought forward,</i>	\$1,457 07	
Rec'd from Town of Grafton, partial support of sundry persons,	53 85	
“ Town of Concord, partial support of sundry persons,	48 88	
“ Town of Pittsfield, partial support of sundry persons,	20 63	
“ Town of Lunenburg, partial support of sundry persons,	14 51	
“ Town of Lexington, partial support of sundry persons,	13 00	
“ Town of Watertown, partial support of sundry persons,	11 00	
“ Town of Natick, partial support of sundry persons,	6 25	
“ Town of Brookline, partial support of sundry persons,	5 88	
	<hr/>	
Total, as per item No. 20 of receipts,		\$1,631 07

Public Property.

Rec'd from sale of lot of land in Newton Centre, between Station and Centre streets,	\$3,794 08	
“ D. C. Morgan, for rent of house, Washington street, Ward 7,	195 00	
“ Rent of Mason School-house Hall,	155 00	
“ Rent of Prospect School-house Hall,	103 50	
“ E. M. Fowle, Treasurer, for rent of Black Bass Pond,	25 00	
“ Dorchester Mutual Fire Insurance Company, dividend,	21 00	
	<hr/>	
Total, as per item No. 21 of receipts,		\$4,293 58

Sidewalks and Curbing.

Received from sundry persons, for laying Sidewalks and Curbing, as per item No. 22 of receipts,	\$877 88
-------------------------------------------------------------------------------------------------	----------

Sinking Fund Commissioners.

Received from the Sinking Fund Commissioners, on account of the City Debt, cash to take up Note of the Town of Newton, due August 25, 1879, to the Boston Five Cents Savings Bank, as per item No. 23 of receipts,	\$30,000 00
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------

State Aid.

Received from Commonwealth of Massachusetts, on account of sundry persons, as per item No. 24 of receipts,	\$1,300 00
------------------------------------------------------------------------------------------------------------	------------

Suspense Account.

Received from Moses Clark, Jr., Water Registrar, money withheld and uncalled for on account of labor on Water Works,	\$166 77
Money uncalled for on Highways,	1 25
	<hr/>
Total, as per item No. 25 of receipts,	\$168 02

Taxes, 1871.

Balance uncollected Dec. 31, 1878,	\$607 36
Poll and personal taxes abated by the Board of Assessors by authority under chap. 77, acts of 1878,	571 52
	<hr/>
Balance uncollected Dec. 31, 1879,	\$35 84

Taxes, 1872.

Balance uncollected Dec. 31, 1878,	\$600 66
Poll and personal taxes abated by the Board of Assessors by authority under chap. 77, acts of 1878,	492 27
	<hr/>
Balance uncollected Dec. 31, 1879,	\$108 39

Taxes, 1873.

Balance uncollected Dec. 31, 1878,	\$1,341 71	
Poll and personal taxes abated by the Board of Assessors, by authority under chap. 77, acts of 1878,	<u>1,151 01</u>	
Balance uncollected Dec. 31, 1879,		\$190 70

Taxes, 1874.

Balance uncollected Dec 31, 1878,	\$2,520 26	
Received from sundry persons since Dec. 31, 1878, as per item No. 26 of re- ceipts,	<u>9 10</u>	
Balance uncollected Dec. 31, 1879,		\$2,511 16

Taxes, 1875.

Balance uncollected Dec. 31, 1878,	\$3,586 63	
Received from sundry persons since Dec. 31, 1878, as per item No. 27 of receipts,	<u>46 98</u>	
Balance uncollected Dec. 31, 1879,		\$3,539 65

Taxes, 1876.

Balance uncollected Dec. 31, 1878,	\$4,445 55	
Received from sundry persons since Dec. 31, 1878, as per item No. 28 of re- ceipts,	<u>121 30</u>	
Balance uncollected Dec. 31, 1879,		\$4,324 25

Taxes, 1877.

Balance uncollected Dec. 31, 1878.	\$3,862 47	
Received from sundry persons since Dec. 31, 1878, as per item No. 29 of receipts,	<u>1,718 43</u>	
Balance uncollected Dec. 31, 1879,		\$2,144 04

Taxes, 1878.

Balance uncollected Dec. 31, 1878,	\$60,039 98	
Received from sundry persons since Dec. 31, 1878, as per item No. 30 of re- ceipts,	58,720 69	
	<hr/>	
Balance uncollected Dec. 31, 1879,		\$1,319 29

Taxes, 1879.

Amount assessed for State Tax,	\$8,040 00	
“ “ “ County Tax,	11,615 58	
City Tax and Overlay,	307,304 06	
Tax on Non-resident Bank Shares,	871 32	
	<hr/>	
		\$327,830 96
Received from sundry persons to Dec. 31, 1879,	\$272,991 08	
Abatements to Dec. 31, 1879,	1,752 44	
	<hr/>	
Total, as per item No. 31 of receipts,		\$274,743 52
		<hr/>
Balance uncollected Dec. 31, 1879,		\$53,087 44

Temporary Loans.

Borrowed during the year by authority of the City Council (in anticipation of taxes), for the payment of current expenses : —

March 8, Commonwealth of Massachu- setts, at $3\frac{1}{8}\%$ per annum,	\$50,000 00	
July 8, Note of City of Newton, dis- counted by W. F. Lawrence & Co., at $3\frac{1}{4}\%$ per annum,	50,000 00	
Nov. 29, Commonwealth of Massachusetts at $4\frac{1}{2}\%$ per annum,	60,000 00	
	<hr/>	
Total, as per item No. 32 of the receipts,		\$160,000 00

Water Rates.

Received from sundry persons for use of Water in 1879, as per item No. 34 of receipts,	\$22,219 80
-------------------------------------------------------------------------------------------	-------------

Water Rates by Meter.

Received from sundry persons for use of Water by meter, in 1879, as per item No. 35 of receipts,	\$4,935 72
--------------------------------------------------------------------------------------------------	------------

Water Department.

Received from sundry persons for Service pipe and Meters in 1879, as per item No. 36 of receipts,	\$3,138 68
---------------------------------------------------------------------------------------------------	------------

STATEMENT IN DETAIL OF EXPENSES, WITH APPROPRIATIONS, TRANSFERS AND BALANCES.

Almshouse Expenses and Repairs.

Appropriation,		\$3,500 00
N. D. Moody, services as Warden,	\$530 04	
N. D. Moody, sundry cash payments,	335 95	
John Moody, services at Almshouse,	75 00	
Mary E. Parker, " "	60 00	
Mary A. McPhee, " "	50 00	
Laura McMillan, " "	12 00	
Emma M. Kelly, " "	12 00	
Reed, Hawkins & Reed, flour,	144 49	
E. Smead & Co., grain,	107 43	
J. W. Davis & Co., groceries,	150 08	
Luther H. Dana, " "	116 62	
H. A. Sherman, " "	24 55	
H. W. Fanning & Son, " "	19 54	
Robertson & Sherman, groceries,	4 13	
Bacon & Randall, provisions,	155 53	
Charles W. Randall, " "	42 22	
J. Henry Brackett, " "	8 61	
Albert Brackett, coal,	191 92	
Paul & Cleveland, " "	5 50	
C. F. Eddy & Co., " "	5 50	
<i>Amounts carried forward,</i>	<hr/> \$2,051 11	<hr/> \$3,500 00

<i>Amounts brought forward,</i>	\$2,051 11	\$3,500 00
Waters & Inman, coal,	4 00	
J. F. C. Hyde, wood at auction,	63 25	
Ralph Seaverns, cow,	50 00	
Water Department, use of Water,	40 50	
J. F. Brown, Treasurer, pew rent,	33 86	
B. Randall, fish and oysters,	39 94	
J. T. Norris, boots and shoes,	81 84	
Francis Murdock & Co., dry goods, etc.,	58 11	
Whittemore Bros., machine, etc.,	40 93	
Milo Lucas, material and labor,	48 85	
O. F. Lucas, " "	42 94	
J. Pulcifer, " "	36 94	
C. V. Knowles, " "	18 20	
J. L. Sears, " "	11 31	
Otis Pettee & Co., material and labor,	9 00	
J. Henry Bacon, supplies,	39 93	
A. Goodnow, "	21 20	
Parker & Gannett, "	13 50	
J. H. Hoyt, sewing machine,	30 00	
George H. Ellis, ice,	15 00	
Francis Buttrick, lumber,	11 34	
G. J. Carleton, wood,	15 00	
E. C. Moulton, "	8 62	
Thomas Belger, blacksmithing,	19 04	
J. M. Fowle, "	7 33	
A. Peters, "	5 97	
Dr. F. D. Lord, professional services,	5 50	
A. Pillsbury, medicines,	13 58	
Sundry small bills,	16 66	
	<hr/>	
Total, as per item No. 1 of expenses,		2,853 45
Balance unexpended, transferred into Treasury,		<hr/> \$646 55

ARMORY RENT AND EXPENSES.

Appropriation,	\$1,200 00
<i>Amount carried forward,</i>	<hr/> \$1,200 00

<i>Amount brought forward,</i>		\$1,200 00
O. W. Turner, rent of Armory,	\$800 00	
B. S. Wetherbee, services as janitor,	270 83	
N. & W. Gas Light Co., gas,	106 50	
Water Department, use of water,	16 00	
Albert Brackett, coal,	14 90	
James Nickelson, wood,	8 00	
	<hr/>	
Total, as per item No. 2 of expenses,		1,216 23
		<hr/>
Balance overdrawn, transferred into Treasury,		\$16 23

BOOKS, STATIONERY, AND PRINTING.

Appropriation,		\$2,500 00
L. F. Lawrence & Co., Auditor's Report, etc.,	\$421 95	
Rand, Avery & Co., printing tax lists, etc.,	346 25	
Henry Washburn, printing,	141 50	
W. S. Varney, "	106 75	
Rockwell & Churchill, "	9 50	
Alfred Mudge & Co., "	3 75	
W. L. Deland, "	2 00	
H. M. Stimson, printing and advertising,	214 50	
Transcript Publishing Co., printing and advertising,	208 55	
Newton Republican Co., printing and ad- vertising,	113 25	
Charles H. Stacy, stamped envelopes, stamps, etc.,	270 69	
Newton Post Office, stamped envelopes, stamps, etc.,	101 74	
M. R. Warren, stationery, etc.,	215 26	
Hooper, Lewis & Co., " "	36 30	
Ward & Gay, " "	35 67	
J. L. Fairbanks & Co., stationery, etc.,	9 50	
	<hr/>	
<i>Amounts carried forward,</i>	\$2,237 16	\$2,500 00

<i>Amounts brought forward,</i>	\$2,237 16	\$2,500 00
A. R. Gay & Co., stationery, etc.,	7 35	
Cutter, Tower & Co., “	3 75	
J. Q. Bradish & Co., pens,	52 00	
R. M. Pulsifer & Co., advertising,	14 00	
J. H. Potter, “	8 50	
Boston Daily Advertiser, subscription,	12 00	
Sampson, Davenport & Co., Boston		
Directories,	10 00	
Mills, Knight & Co., books and printing,	39 50	
Frederick Eeles, books,	16 25	
Little, Brown & Co., “	9 00	
Fred W. Barry, “	8 33	
Frank Fanning, postal cards and printing,	6 00	
J. M. Jacobs, lithogram and inks,	5 00	
B. B. Brooks & Co., ink,	1 00	
H. & S. Parker, blank books,	80	
	<hr/>	
Total, as per item No. 3 of expenses,		2,430 64
		<hr/>
Balance unexpended, transferred into Treasury,		\$69 36

BURIAL GROUNDS.

Appropriation,		\$200 00
Newton Cemetery Corporation, material		
and labor,	\$94 25	
	<hr/>	
Total, as per item No. 4 of expenses,		94 25
		<hr/>
Balance unexpended, transferred into Treasury,		\$105 75

BOARD OF HEALTH.

Changing Water course and construction of Drain from Walnut street, Ward 2, to Boyd's pond, Ward 1, by order of the Board of Health.

George E. Stuart, services as Superintendent,	\$154	00
John P. Keating, " "	225	50
Pay-rolls of laborers,	8,123	44
John A. Kenrick, Treasurer, amount paid		
on discharged tickets,	2,460	50
Patrick Grace, stone,	4,142	87
Noah Prescott, "	270	24
G. Fuller & Son, lumber,	396	84
Orrin Whipple, material and labor,	383	27
O. J. Davis, spruce piling,	264	60
F. E. Hamblin, drain pipe, etc.,	255	14
Boston & Albany Railroad, freight,	129	50
T. Stuart, labor, men, and teams,	111	48
J. C. Farrar, blacksmithing,	112	82
M. Hewitt, "	38	19
C. A. Cole, "	24	66
A. Peters, "	21	18
James Grace, gravel removed,	76	00
J. Pulcifer, material and labor,	61	00
Ross & Murray,	52	50
C. McBride, gravel,	83	30
John Harris, use of pile driver,	51	00
Winch Bro's, heavy gum boots,	50	60
B. F. Barlow, blacksmithing,	42	75
John S. Potter, stone,	34	00
H. Whitney, chestnut posts,	30	78
Parker & Gannett, supplies,	38	00
Rockwell & Mosley, powder and fuse,	38	00
H. N. Stone, supplies,	29	00
G. K. & J. Ward, stone,	24	90
H. M. Darling & Co., wheelbarrows,	20	00
J. O. Evans & Son, painting fence,	20	00
Sundry small bills,	100	50
<hr/>		
Total as per item No. 5 of expenses,		\$17,866 56

CONVEYANCE OF PUPILS.

Appropriation,		\$900 00
James S. Newell,	\$850 00	
<hr/>		
<i>Amounts carried forward,</i>	\$850 00	\$900 00

<i>Amounts brought forward,</i>	\$850 00	\$900 00
Total, as per item No. 6 of expenses,		<u>850 00</u>
Balance unexpended, transferred into Treasury,		\$50 00

CURBING.

Appropriation,		\$500 00
Noah Prescott, stone,	\$326 95	
Boston and Albany Railroad, freight,	111 00	
Highway Department, labor,	53 00	
H. M. Darling & Co., tools,	<u>8 50</u>	
Total, as per item No. 7 of expenses,		<u>499 45</u>
Balance unexpended, transferred into Treasury,		55

CONCRETE SIDEWALKS.

Appropriation,		\$1,800 00
Simpson Bro's, concreting,	<u>\$1,799 02</u>	
Total, as per item No 8 of expenses,		<u>1,799 02</u>
Balance unexpended, transferred into Treasury,		98

CITY CLERK'S SALARY.

Appropriation,		\$1,800 00
Edwin O. Childs,	<u>\$1,800 00</u>	
Total, as per item No. 9 of expenses,		\$1,800 00

CITY HALL.

Fuel, Lights and Contingent Expenses.

Appropriation,		\$2,500 00
Joseph D. Wellington, City Messenger,	\$800 00	
N. & W. Gas Light Co., gas,	357 30	
Albert Brackett, coal,	231 01	
Wellington Burnett, gasoline, etc.,	166 46	
E. R. Morse & Co., safe in office of Water Registrar,	100 00	
J. D. Wellington, sundry cash expenses,	79 62	
Water Department, use of water,	71 00	
Charles S. Phillips, painting, etc.,	54 81	
William Petigrew, material and labor,	47 39	
M. N. Boyden, Agent, disinfectors, etc.,	44 50	
M. F. Whitton & Co., new flag and re-pairing,	39 05	
O. B. Leavitt, conductors, etc.,	32 00	
L. J. Kendall, ice,	30 00	
Joel Goldthwait & Co, matting,	20 25	
W. H. French & Co., material and labor,	25 33	
Doane & Greenough, letter-press book, etc.,	19 25	
D. F. McAllister, conductors, etc.,	17 20	
John Foster, material and labor,	16 25	
William Hockridge, " "	16 25	
Charles A. Cole, iron work, etc.,	15 20	
H. M. Darling & Co., tools, etc.,	13 34	
C. H. Jenison, expressage,	10 50	
O. F. Lucas, repairing furnaces, etc.,	8 75	
Michael Pillon, cleaning cesspool,	4 50	
H. P. Barber, brooms, etc.,	4 45	
Sundry small bills,	12 78	

Total, as per item No. 10 of expenses, 2,237 19

Balance unexpended, transferred into Treasury, \$262 81

City Engineer's Department.

Appropriation,		\$3,000 00
Albert F. Noyes, services as City Engineer,	\$1,300 00	
George S. Lewis, " Ass't "	150 00	
Eugene B. Baker, " " "	518 00	
Edward A. Buss, " " "	274 00	
William S. French, " " "	272 00	
H. G. Fordham, " " "	48 00	
Frank Whitlock, " " "	18 00	
James McDonald, " " "	155 73	
Incidental repairs, travelling expenses, etc., of Engineer and Assistants,	92 02	
Charles E. Alger, copying records,	58 50	
Frost & Adams, supplies,	69 83	
Buff & Berger, "	30 75	
M. Safford, "	7 00	
A. R. Gay & Co., "	5 65	
Total, as per item No. 11 of expenses,		2,999 48
Balance unexpended, transferred into Treasury,		52

DRAINS AND CULVERTS.

Appropriation,		\$8,500 00
Highway Department, labor, men, and teams,	\$4,159 22	
F. E. Hamblin, drain-pipe, etc.,	1,523 96	
J. A. Kenrick, Treasurer, amount paid on account of discharged tickets for labor,	823 57	
Seth Davis, material and labor,	689 45	
Noah Prescott, for stone,	411 00	
George Dix, "	226 25	
Otis Pettee & Co., material and labor,	223 02	
A. Peters, " "	149 12	
<i>Amounts carried forward,</i>	\$8,205 59	\$8,500 00

<i>Amounts brought forward,</i>	\$8,205 59	\$8,500 00
Boston and Albany Railroad, freight,	129 50	
Milo Lucas, material and labor,	29 76	
B. Fewkes, " "	28 08	
D. F. Fahen, " "	19 38	
H. L. White, supplies,	13 25	
Paul & Cleveland, cement,	9 66	
Sundry small bills,	25 82	
	<hr/>	
Total, as per item No. 12 of expenses,		8,461 04
		<hr/>
Balance unexpended, transferred into Treasury,		\$38 96

EVENING SCHOOLS.

Appropriation,		\$500 00
Levi F. Warren, teacher,	\$105 00	
Daniel W. Barber, "	103 50	
Edward E. Sparhawk, teacher,	16 50	
Emma B. Wilkins, "	84 00	
Ellen F. Dalrymple, "	40 50	
Isabel M. Ayers, "	4 50	
John McCamman, janitor,	42 00	
Newton Republican Co., advertising,	11 00	
Transcript Publishing Co., "	2 00	
George H. Adams, supplies,	10 61	
Knight, Adams & Co., "	6 92	
	<hr/>	
Total, as per item No. 13 of expenses,		426 53
		<hr/>
Balance unexpended, transferred into Treasury,		\$73 47

FIRE DEPARTMENT.

Appropriation,	\$22,000 00
<i>Amount carried forward,</i>	<hr/> \$22,000 00

Amount brought forward,

\$22,000 00

Board of Engineers.

George H. Ellis, Chief Engineer,	\$125 00
Henry L. Bixby, " "	1,000 00
Henry L. Bixby, Ass't " "	25 00
William Bemis, " "	275 00
Edwin O. Childs, Clerk of Board,	100 00
	<hr/>
	\$1,525 00

Steamer No. 1.

F. E. Judkins, Engineer,	\$900 00
H. C. Lindley, Acting Engineer,	34 75
E. H. Harrington, Driver,	700 00
George S. Holmes, Acting Driver,	26 99
H. C. Lindley, Stoker,	100 00
Wm. H. Park, Jr., Foreman,	80 00
C. E. F. Ross, Ass't Foreman,	65 00
O. F. Hamblin, Clerk,	65 00
George S. Holmes, Hoseman,	60 00
George R. Aston, " "	60 00
Charles A. Estabrook, " "	60 00
George W. Lamson, Jr., " "	50 00
R. O. Evans, " "	50 00
E. Pike, Jr., " "	35 00
Charles Boulton, " "	25 00
W. H. Spear, " "	22 50
J. Deacks, " "	20 00
J. B. Harrington, " "	20 00
T. W. Thompson, " "	20 00
D. C. Graves, " "	20 00
A. L. Conant, " "	15 00
A. F. Nutting, " "	15 00
E. W. Caswell, " "	10 00
Peter Hoseason, " "	10 00
	<hr/>
	2,464 24

Amounts carried forward,

\$3,989 24

\$22,000 00

Amounts brought forward,

\$3,989 24 \$22,000 00

Steamer No. 2.

R. S. Cummings, Engineer,	\$900 00
M. J. Crowley, Acting Engineer,	34 75
C. L. Berry, Driver,	700 00
M. J. Crowley, Acting Driver,	26 99
M. J. Crowley, Stoker,	100 00
George H. Haynes, Foreman,	80 00
F. H. Humphrey, Ass't Foreman,	65 00
F. A. Barrows, Clerk,	65 00
J. Q. A. Hawkes, Hoseman,	60 00
C. V. Knowles, "	60 00
W. A. Whitaker, "	60 00
Charles A. Cole, "	60 00
H. A. Waterhouse, "	60 00
Fred T. Burgess, "	60 00
W. F. Rand, "	55 00
Clarence Needham, "	43 84
W. M. Lucas, "	40 00
D. J. Knowles, "	20 00
F. H. Cole, "	16 17
George W. Simpson, "	5 00

 2,511 75
Steamer No. 3.

A. D. Colby, Engineer,	\$900 00
A. C. Jewett, Acting Engineer,	34 75
E. C. Holmes, Driver,	700 00
John Davidson, Acting Driver,	13 50
E. C. Holmes, cash paid substi-	
tute driver,	13 49
Asa C. Jewett, Stoker,	100 00
William Bemis, Foreman,	6 67
H. G. Sawyer, Foreman,	73 33
C. G. Kelsey, Ass't Foreman,	16 25
G. W. Ulmer, " "	48 75
Charles A. Peck, Clerk,	65 00

Amounts carried forward,

 \$1,971 74 \$6,500 99 \$22,000 00

<i>Amounts brought forward,</i>	\$1,971 74	\$6,500 99	\$22,000 00
S. F. Chadbourne, Hoseman,	60 00		
Charles B. Garey, "	60 00		
John Davidson, "	60 00		
Vando Martin, "	60 00		
Alvah J. Roach, "	60 00		
William Bliss, "	60 00		
George F. Richardson, "	60 00		
A. I. English, "	37 50		
Lac Martin, "	30 00		
Frank G. Lord, "	17 50		
C. G. Kelsey, "	15 00		
Thomas Fennesey, "	15 00		
H. G. Sawyer, "	5 00		
		2,511 74	

Hook and Ladder No. 1.

Charles Murphy, Driver,	\$700 00		
J. H. Kelley, Acting Driver,	26 99		
S. E. Wetherbee, Foreman,	60 00		
W. S. Higgins, Ass't Foreman and Foreman,	68 75		
U. H. Dyer, Ass't Foreman and Clerk,	65 00		
L. H. Cranitch, Ladderman and Clerk,	61 25		
R. F. Cranitch, Ladderman,	60 00		
J. H. Gilman, "	60 00		
J. H. Williams, "	60 00		
O. Dow, "	60 00		
F. B. Sisson, "	60 00		
J. E. Watson, "	60 00		
A. O. Davis, "	60 00		
B. F. Barlow, "	60 00		
John Murphy, "	15 00		
		1,476 99	
<i>Amounts carried forward,</i>	\$10,489 72	\$22,000 00	

Amounts brought forward,

\$10,489 72 \$22,000 00

Hose Co. No. 4.

E. C. Waterhouse, Foreman,	\$80 00	
Joseph Fontaine, Secretary,	65 00	
F. A. Dexter, Hoseman,	60 00	
John Deary, “	60 00	
J. F. Horrigan, “	60 00	
E. P. Bessie, “	45 00	
R. L. Hill, “	15 00	
	<hr/>	385 00

Hose Co. No. 5.

William F. Soule, Foreman,	\$63 07	
Joseph U. Kimball, Secretary,	51 24	
Charles H. Hall, Hoseman,	47 30	
Charles McCullum, “	47 30	
James C. Merrill, “	47 30	
A. H. Richards. “	30 00	
Joshua F. Long, “	17 30	
	<hr/>	303 51

Hose Co. No. 6.

Frank B. Reed, Foreman,	\$80 00	
W. A. Leonard, Secretary,	65 00	
Bernard Early, Hoseman,	60 00	
G. A. Reed, “	60 00	
J. J. Kenney, “	60 00	
C. H. Brown, “	45 00	
R. H. Moulton, “	15 00	
	<hr/>	385 00

Hose Co. No. 7.

W. S. Cargell, Foreman,	\$80 00	
H. A. Smith, Secretary,	65 00	

Amounts carried forward,

<hr/>	<hr/>	<hr/>
\$145 00	\$11,563 23	\$22,000 00

<i>Amounts brought forward,</i>	\$145 00	\$11,563 23	\$22,000 00
R. H. Hodgson, Hoseman,	60 00		
J. E. Trowbridge, "	60 00		
H. H. Easterbrook, "	30 00		
G. H. Osborne, "	30 00		
John Doole, "	30 00		
J. F. Thomason, "	30 00		
		\$385 00	
Firemen, extra service, July 4,		48 00	

Repairs, Supplies and Incidentals.

Highway Department, keeping and use of horses,	\$3,192 00		
The American Fire Hose Manf. Co., hose,	1,000 00		
Buckley & Merritt, balance on new truck, etc.,	703 50		
Bangor Extension Ladder Co., ladders,	300 00		
James Boyd & Sons, hose and repairs,	325 22		
N. & W. Gas Light Co., gas,	338 70		
Water Department, use of water,	209 00		
J. F. C. Hyde, horse,	175 00		
Ryan Bros., wheels, etc.,	130 10		
Sabin & Page, blankets, etc.,	108 15		
Albert Brackett, coal,	724 56		
Howard Snelling & Co., coal,	73 45		
Paul & Cleaveland, coal and wood,	21 13		
C. F. Eddy & Co., " "	16 00		
J. W. Pearson, " "	10 25		
Daniel Warren, " "	8 25		
James Nickelson, " "	6 98		
Waters & Inman, " "	5 00		
A. J. Fiske & Co., material and labor,	113 74		
M. J. Crowley, " "	73 50		
J. Carrall, " "	56 66		
J. Langtry, " "	49 50		
Ross & Murray, " "	48 50		
<i>Amounts carried forward,</i>	\$19,685 42	\$22,000 00	

<i>Amounts brought forward,</i>	\$19,685 42	\$22,000 00
A. B. Palmer, material and labor,	45 00	
C. H. Robertson, " "	26 55	
J. E. Trowbridge, " "	17 30	
Boston Nickel Plating Co., material and labor,	15 60	
William Welch, material and labor,	14 06	
Paine & Morehouse, " "	12 98	
W. H. Stilson, " "	11 80	
W. F. Rand, " "	12 25	
T. F. Glennan, " "	10 45	
Cranitch & Horrigan, material and labor,	8 75	
S. F. Carrier, " "	8 48	
R. J. Gillfeather, " "	7 50	
Charles A. Cole, blacksmithing,	83 20	
J. C. Farrar, " "	32 29	
P. A. McVicar, " "	14 60	
B. F. Barlow, " "	9 00	
A. Danforth & Co., " "	8 00	
Mrs. Edson Holmes, laundry work,	67 74	
M. A. Crowley, " "	64 92	
Charles Murphy, " "	60 42	
E. B. Blackwell, " "	60 06	
W. A. Leonard, " "	28 00	
H. A. Smith, " "	20 04	
James C. Merrill, " "	14 50	
Bernard Early, " "	6 00	
Mrs. John Whitton, " "	5 00	
J. E. Watson, " "	5 00	
J. H. Cole & Co., hose oil,	98 00	
H. L. Bixby, sundry cash expenses,	66 93	
George W. Simmons & Son, overcoats,	41 25	
Seccomb, Kehew & Thayer, oil,	21 50	
W. C. Smith, hooks, etc.,	19 00	
F. E. Jenison, soap,	16 25	
J. F. Barnard & Co., soap,	15 00	
S. F. Cate, horse and carriage hire,	10 50	
<i>Amounts carried forward,</i>	<hr/> \$20,643 34	<hr/> \$22,000 00

<i>Amounts brought forward,</i>	\$20,643 34	\$22,000 00
James Forgie, collars,	10 00	
J. C. Fuller, hook bells,	10 00	
G. P. Palmer, agt., oil,	8 75	
G. S. Holmes, sign boards,	8 75	
L. Barber, Jr., brooms,	7 25	
W. H. Bustin, collar,	6 00	
F. C. Randall, repairs on sleigh,	6 00	
Boston Car Spring Co., sponge,	6 56	
National Manf. Co., Johnson pump,	6 50	
L. A. Gammons, grate to furnace,	5 45	
A. W. Snow & Co., material and labor,	7 26	
C. S. Phillips, " "	7 10	
O. B. Leavitt, " "	5 90	
C. V. Knowles, " "	5 60	
L. J. Kendall, ice,	20 00	
George H. Ellis, "	12 50	
Howard Bros., "	10 00	
C. H. Jenison, expressage,	15 25	
C. H. Hurd, "	10 55	
Dillingham's Express,	8 55	
H. M. Darling & Co., supplies,	67 06	
Manchester Locomotive Works, supplies,	61 85	
George Dunbar & Co., supplies,	60 26	
B. B. Bullwinkle, "	33 60	
H. H. Easterbrook, "	26 05	
Hicks & Badger, "	21 54	
A. W. Mitchell & Co., " "	14 20	
A. J. Wilkinson & Co., "	12 90	
Hunneman & Co., "	11 75	
W. O. Knapp & Co., "	10 68	
Robertson & Sherman, "	15 50	
S. M. Leathers, "	7 14	
B. F. Houghton, "	6 40	
Walker & Pratt Manf. Co., "	5 85	
Thayer & Stiles, "	5 80	
A. D. Colby, "	5 84	
Sundry small bills,	135 79	
<i>Amounts carried forward,</i>	<hr/> \$21,323 52	<hr/> \$22,000 00

Amounts brought forward, \$21,323 52 \$22,000 00

Fire Alarm Telegraph.

G. W. Ulmer, Fire Alarm Telegraph Operator,	\$456 85
M. G. Crane & Co., gongs, etc.,	208 57
J. A. & W. Bird & Co., vitriol, etc.,	139 14
S. L. Pratt, use of horse and wagon,	97 25
Thomas Gooch, chestnut posts,	87 50
Charles Williams, Jr., wire, etc.,	67 29
Wallace & Sons, " "	40 00
A. B. Palmer, wagon,	35 00
J. C. Farrar, material and labor,	27 00
George Dunbar & Co., supplies,	15 00
Orrin Whipple, material and labor,	12 30
Collin Cady, material and labor,	11 99
C. A. Cole, " "	11 05
John Coyne, labor,	10 50
H. L. Bixby, sundry cash expenses,	10 20
Stearns & George, supplies,	9 48
George Fuller, material and labor,	7 20
N. & W. Gas Light Co., gas,	6 90
Alfred Howes, supplies,	5 78
W. J. Wilson, "	4 85
H. M. Darling & Co., supplies,	4 25
Sundry small bills,	19 07

1,287 17

Total, as per item No. 14 of expenses, 22,610 69

Balance overdrawn, transferred into Treasury, \$610 69

GRAVEL LAND.

Appropriation,		\$3,000 00
Nathaniel Wales, gravel,	\$1,100 00	
Newton Cemetery Corporation, gravel,	600 00	
Phineas E. Gay, gravel,	288 11	
Heirs of Dennis O'Donnell, gravel,	250 00	
Patrick Ryan, loam,	237 75	
L. Paul, gravel,	74 10	
Mrs. J. Nevins, gravel,	50 00	
Simon Foley, breaking stone,	28 93	
John McCarthy, “	26 99	
Alexander Welch, “	16 91	
William Kiley, “	8 63	
F. C. Hills, gravel,	23 63	
W. C. Wiswell, “	4 40	
John A. Evans, “	3 40	
<hr/>		
Total, as per item No. 15 of expenses,		2,712 85
		<hr/>
Balance unexpended, transferred into Treasury,		\$287 15

HIGHWAYS. GENERAL REPAIRS.

Appropriation,		\$35,000 00
Additional appropriations, by order City Council,		7,400 00
		<hr/>
		\$42,400 00
A. R. Carter, services as Superintendent of Streets,	\$266 67	
W. E. Fuller, services as Overseer of Highways,	600 00	
J. A. Peck, services as Assistant, etc.,	860 75	
J. J. Ware, “ “ “	795 74	
W. E. Fuller, “ “ “	426 25	
D. C. Morgan, “ “ “	426 25	
<hr/>		
<i>Amounts carried forward,</i>	\$3,375 66	\$42,400 00

<i>Amounts brought forward,</i>	\$3,375 66	\$42,400 00
Geo. E. Stuart, services as Assistant, etc.,	209 00	
Charles Esty, " " and teams,	204 87	
E. D. Brooks, " " "	52 25	
A. R. Carter and W. E. Fuller, laborers on highways, as per pay rolls,	22,753 14	
E. J. Collins, Treasurer, amount paid on discharged tickets,	1,415 45	
J. A. Kenrick, Treasurer, amount paid on discharged tickets,	700 13	
Simpson Bros., concreting,	2,157 13	
Rockwell & Mosely, powder and fuse,	272 50	
Noah Prescott, stone,	328 90	
Newton & Watertown Gas Light Co., gas,	202 50	
Water Department, use of water,	183 67	
J. H. Stone, lumber,	170 85	
Boston & Albany Railroad, freight,	170 91	
Henry McGreedy, one bay horse,	200 00	
Emerson & Porter, " " " "	190 00	
C. H. Cushman, " grey "	150 00	
J. F. C. Hyde, " roan "	113 00	
G. Fuller & Son, rent of land,	100 00	
Heirs of J. A. Kenrick, stone,	68 85	
E. Smead & Co., grain, etc.,	1,146 21	
C. F. Eddy & Co., " "	1,083 11	
Albert Brackett, " "	691 78	
H. W. Crowell, " "	544 21	
B. F. Tyler, " "	48 61	
Greenwood & Co., " "	27 85	
P. Mullen, hay,	389 63	
H. L. Hovey, hay and straw,	211 79	
Almshouse Department, hay,	197 83	
Taylor & Tupper, hay and straw,	196 35	
D. T. Bond, hay,	153 78	
B. F. Cutter, "	113 53	
H. Whitney, "	100 13	
L. C. Tolman, "	48 10	
<i>Amounts carried forward,</i>	\$37,971 72	\$42,400 00

<i>Amounts brought forward,</i>	\$37,971 72	\$42,400 00
Hugh Kelly, hay and straw,	48 01	
Geo. H. Fisk, ag't, hay,	40 94	
Reuben Stone, "	39 85	
Amasa Collins, "	27 31	
J. D. Dix, "	19 05	
Augustus Allen, straw,	17 25	
A. Peters, blacksmithing,	698 96	
J. C. Farrar, "	629 74	
M. Hewitt, "	342 62	
Charles A. Cole, "	245 45	
Thomas Belger, "	236 77	
M. Nugent, "	145 95	
B. F. Barlow, "	142 64	
D. F. Fahren, "	140 80	
A. Danforth & Co., blacksmithing,	125 59	
P. A. McVicar, "	54 75	
J. McDonald, "	46 37	
E. A. Mathews, "	17 54	
Sam'l D. Garey, material and labor,	436 80	
Orrin Whipple, " "	271 27	
Ross & Murray, " "	156 20	
* William Petigrew, " "	148 16	
J. D. Billings, " "	141 01	
J. O. Evans & Son, " "	110 15	
Otis Pettee & Co., " "	95 22	
W. A. Roffe, " "	88 19	
J. Carrall, " "	81 80	
J. Pulcifer, " "	76 72	
Paine & Morehouse, " "	64 92	
Allen Jordan, material and labor,	54 22	
Luther Bailey, " "	62 26	
Cranitch & Horrigan, material and labor,	47 25	
J. Langtry, " "	46 15	
G. W. Keyes, " "	42 52	
F. & W. Clark, " "	39 25	
M. J. Crowley, " "	37 80	
<i>Amounts carried forward,</i>	<hr/> \$42,991 20	<hr/> \$42,400 00

<i>Amounts brought forward,</i>	\$42,991 20	\$42,400 00
William Welch, material and labor,	35 39	
C. H. Robertson, material and labor,	34 80	
A. J. Fiske & Co., " "	29 93	
T. F. Glennan, " "	28 95	
A. W. Snow, " "	26 39	
V. Haffermehl, " "	24 90	
Benj. Fewkes, " "	22 00	
Geo. B. Randall, " "	19 67	
McLean & Henderson, " "	17 00	
R. Curry, " "	18 00	
O. B. Leavitt, " "	16 56	
W. H. French & Co., " "	12 50	
W. H. Stilson, " "	11 35	
C. S. Phillips, " "	11 77	
W. F. Rand, " "	9 00	
William Johnson, " "	8 10	
Collin Cady, " "	6 64	
S. F. Carrier, " "	6 30	
P. Lovely, " "	5 60	
Milo Lucas, " "	5 63	
J. E. Trowbridge, " "	5 25	
Sabin & Page, blankets, etc.,	294 21	
Davis & Farnum Man'f Co., castings, etc.,	115 23	
H. M. Darling & Co., shovels, etc.,	84 00	
G. K. & J. Ward, rent of land and stone,	103 90	
Asahel Wheeler, paint, etc.,	85 75	
Simon Foley, breaking stone,	42 22	
William Donahoe, " "	36 56	
John McCarty, " "	17 30	
E. F. Thayer, care of horses, and medicine,	39 50	
F. E. Hamblin, drain pipe, cement, etc.,	679 44	
J. W. Pearson, coal,	279 58	
Waters & Inman, coal,	149 74	
James Nickelson, " "	7 80	
J. P. Keating, labor, men and teams,	33 75	
F. Dolan, stone,	58 00	

Amounts carried forward,

\$45,373 91

\$42,400 00

<i>Amounts brought forward,</i>	\$45,373 91	\$42,400 00
T. Stuart, stone,	36 50	
Patrick Ryan, stone,	6 00	
Mary Gleason, chestnut posts,	39 20	
James Farrar, " "	36 00	
F. E. Wallingford, carriage hire,	48 00	
S. P. Whitman, agt., " "	26 00	
S. F. Cate, " " "	21 50	
S. L. Pratt, " "	5 50	
New England Glass Works, lanterns, etc.,	65 95	
Paul & Cleveland, cement, etc.,	35 45	
Isaac P. Bacon, snow plow,	25 00	
Dr. J. H. Bodge, attendance upon injured man,	20 00	
G. F. Stone, rent of stable,	20 00	
Daniel McNamara, wood,	12 00	
Francis Buttrick, lumber,	11 25	
C. O. Crane & Co., oil,	9 00	
Mrs. E. J. Peck, washing,	8 00	
Cornelius McBride, damage to hay,	8 00	
Edwin Chaffin, expenses removing tree,	5 50	
James Forgie, collar,	5 00	
Harris' Express, expressage,	5 00	
George Dunbar & Co., supplies,	138 90	
B. F. Houghton, "	65 26	
W. O. Knapp & Co., "	23 33	
Boston Machine Co., "	20 88	
W. F. Whitton & Co., "	22 06	
Blanchard & Atkins, "	18 44	
G. D. Putnam & Co., "	16 32	
Kendall & Roberts, "	11 41	
I. H. Snow, "	9 89	
G. Wadleigh, "	9 01	
Joseph H. Temperly, "	7 00	
C. Sargent Bird, "	6 40	
A. B. Tainter, "	5 25	
Sundry small bills,	69 16	

Total, as per item No. 16 of expenses,	<u>\$46,246 07</u>
----------------------------------------	--------------------

Balance overdrawn, transferred into Treasury,	<u>\$3,846 07</u>
-----------------------------------------------	-------------------

WIDENING AND IMPROVEMENTS.

Appropriation,		\$4,200 00
Highway Department, labor, men and teams,	\$2,889 90	
Daniel Condren, building wall,	140 00	
S. D. Garey, material and labor,	87 50	
Allen Jordan, " "	61 72	
Thomas Croker, building wall,	56 00	
J. L. Knox, stone work,	55 50	
Thomas Belger, blacksmithing,	49 02	
Noah Prescott, stone,	45 17	
J. C. Farrar, blacksmithing,	45 00	
J. Pulcifer, material and labor,	37 62	
B. & A. Railroad, freight,	37 00	
J. D. Billings, material and labor,	31 43	
H. W. Fanning, moving shed,	15 00	
J. H. Stone, lumber,	9 51	
George W. Keyes, material and labor,	8 75	
B. F. Fewkes, " "	7 10	
J. L. Sears, " "	7 05	
C. H. & A. F. Ireland, moving fence,	5 00	
W. J. Baker, blacksmithing,	3 62	
Total, as per item No. 17 of expenses,		<u>3,591 89</u>
Balance unexpended, transferred into Treasury,		<u>\$608 11</u>

INDUSTRIAL AND MECHANICAL DRAWING.

Appropriation,		\$300 00
A. Hun Berry, instructor,	\$24 00	
Leslie W. Miller, "	184 00	
Thomas Woodman, janitor,	9 75	
John Cummings, "	9 75	
Total, as per item No. 18 of expenses,		<u>227 50</u>
Balance unexpended, transferred into Treasury,		<u>\$72 50</u>

INTEREST ON CITY LOANS, TEMPORARY AND PERMANENT.

Appropriation,		\$30,000 00
Commonwealth of Massachusetts,	\$15,839 46	
City Institution for Savings, Lowell,	4,800 00	
Boston Five Cents Savings Bank,	4,295 00	
Municipal Bonds,	1,700 00	
W. F. Lawrence & Co.,	573 27	
Kenrick Fund,	74 78	
	<hr/>	
Total, as per item No. 19 of expenses,		27,282 51
		<hr/>
Balance unexpended, transferred into Treasury,		\$2,717 49

INTEREST ON WATER BONDS.

Appropriation,		\$45,500 00
National Bank of the Commonwealth,	\$22,750 00	
National Bank of the Commonwealth,	22,750 00	
	<hr/>	
Total, as per item No. 20 of expenses,		\$45,500 00

INDIGENT SOLDIERS AND SAILORS.

Appropriation,		\$500 00
Amount of aid to sundry soldiers and sailors, under Chap 282, Acts of 1878,	\$651 19	
	<hr/>	
Total, as per item No. 21 of expenses,		651 19
		<hr/>
Balance overdrawn, transferred into Treasury,		\$151 19

LAND DAMAGES.

Appropriation,		\$1,000 00
William H. Park, damage to estate on Park Street,	\$300 00	
	<hr/>	
Total, as per item No. 23 of expenses,		300 00
		<hr/>
Balance unexpended, transferred into Treasury,		\$700 00

LIGHTING STREETS.

Appropriation,		\$20,000 00
Newton & Watertown Gas Light Co.,		
gas and care of street lamps,	\$14,215 27	
United States Street Lighting Co., gas		
and care of street lamps,	2,578 66	
Globe Gas Light Co., gas and care of		
street lamps,	2,196 00	
Newton & Watertown Gas Light Co., re-		
pairs, etc.,	169 62	
John Binney & Son, lanterns, etc.,	220 50	
United States Street Lighting Co., lant-		
erns, etc.,	46 00	
Davis & Farnum Manufacturing Co.,		
iron posts,	217 00	
C. S. Phillips, painting posts,	212 30	
W. J. Towne, lighting, care, etc. of lamp,	11 00	
Bourne & Co., lantern,	5 50	
S. F. Cate, horse and carriage hire,	2 50	
	<hr/>	
Total, as per item No. 24 of expenses,		19,874 35
		<hr/>
Balance unexpended, transferred into Treasury,		\$125 65

MEMORIAL DAY.

Appropriation,		\$300 00
W. A. Wetherbee, Quartermaster, G. A. R.	\$300 00	
Total, as per item No. 25 of expenses,		\$300 00

MISCELLANEOUS EXPENSES.

Appropriation,		\$5,000 00
Highway Department, labor, men and		
teams,	\$919 03	
	<hr/>	
<i>Amounts carried forward,</i>	\$919 03	\$5,000 00

<i>Amounts brought forward,</i>	\$919 03	\$5,000 00
Charles W. Story, services revising and codifying ordinances, per order City Council,	600 00	
Charles Robinson, Jr., legal services in Lemon suit,	510 00	
Rev. S. F. Smith, on account, History of Newton,	500 00	
Peter Thacher, sundry expenses in Lemon suit, etc.,	463 13	
T. Stuart, watering streets. Wards 1 and 7,	225 00	
F. H. Hunting, watering streets. Ward 2.	225 00	
W. H. Mague, " " " 3.	225 00	
R. M. Morse, Jr., legal services,	200 00	
Water Department, use of water for water- ing streets,	175 00	
J. Edwin Warner, services, collecting ac- count of births, etc.,	145 70	
Edwin O. Childs, sundry cash expenses,	130 75	
Middlesex County Commissioners, for services of Commissioners, Engin- eers, etc., on account of dam at Bullough's Pond,	130 00	
George F. Morgan, abstract of deeds for Assessors,	105 16	
John M. Fisk, serving warrants, notices, etc.,	103 55	
Clafin Guard, cash paid for rifle range,	100 00	
J. F. Edmands, cash paid for carriages, flowers, etc., memorial day,	88 75	
Drew, Allis & Co., advertising in Newton directory, etc.,	86 00	
Sam'l M. Jackson, use of horse and car- riage,	80 00	
S. F. Cate, carriages, funeral M. S. Rice and E. J. Collins,	80 00	
<i>Amounts carried forward,</i>	<hr/> \$5,092 07	<hr/> \$5,000 00

<i>Amounts brought forward,</i>	\$5,092 07	\$5,000 00
J. L. Knox, stone watering trough, Ward 6,	75 00	
William Barry, award of damages, per order City Council,	75 00	
Joseph N. Bacon, premium insurance on Public Library,	54 54	
Edwin Holman, premium insurance on Public Library,	54 54	
F. E. Hamblin, drain pipe, etc.,	54 00	
Charles H. Stacy, telegrams, etc.,	50 29	
McLean & Henderson, shed for shoot- ing range,	50 00	
George H. Hastings, likeness of E. J. Collins with frame,	45 00	
Rodney M. Lucas, serving notices, etc.,	44 20	
B. F. Otis, sundry cash expenses,	40 41	
J. J. Doane, services as reporter,	35 10	
G. W. Bush, carriages, funeral Mr. Collins, etc.,	31 50	
Isaac Hagar, sundry cash expenses,	26 31	
John A. Peck, services as undertaker,	26 00	
J. D. Billings, material and labor,	25 94	
C. F. Rand, rent of ward-room, Ward 1,	25 00	
Thomas Woodman, care of ward-room,	22 00	
Boston Stereotype Foundry Co., for en- graving seal, etc.,	21 50	
Boston Safe Deposit Co., rent of box,	20 00	
Henry S. Jones, records for Assessors,	20 00	
George E. Bridges, services as Warden, etc.,	19 00	
G. Wadleigh and others, rent of ward- room, Ward 2,	18 00	
M. C. Laffie, services as watchman and ringing bell,	17 00	
F. E. Wallingford, carriages, funeral Mr. Collins, etc.,	17 00	
Wadleigh, crape for members City Gov- ernment,	12 50	
<i>Amounts carried forward,</i>	<hr/> \$5,971 90	<hr/> \$5,000 00

<i>Amounts brought forward,</i>	\$5,971 03	\$5,000 00
E. J. Collins, sundry cash expenses,	12 17	
Morse, Fitch, & Wadleigh, rent of ward-room,	12 00	
J. A. Kenrick, sundry cash expenses,	11 70	
Orrin Whipple, material and labor,	11 20	
J. L. Randall, care of ward-room, etc.,	10 00	
Dr. A. W. Whitney, examination Geo. French,	10 00	
Dr. F. E. Crocket, examination Geo. French,	10 00	
D. Harrington & Son, carriages, funeral Mr. Collins,	10 00	
W. D. Lathrop, carriages, funeral Mr. Collins,	10 00	
H. A. Mansfield, floral key, funeral Mr. Collins,	8 50	
J. S. Sumner, use of stove in ward-room,	8 00	
R. L. Hinds, sundry cash expenses,	7 62	
Harris Express, expressage,	7 50	
Arthur Hudson, one lithogram,	6 00	
H. A. Davis, adjusting weights and measures,	6 00	
E. G. Hurd, sundry cash expenses,	6 00	
A. W. Mitchell, stamp ribbons,	5 75	
S. P. Whitman, agent, carriage hire,	5 00	
S. L. Pratt, " "	5 00	
Peter Lee, burying dogs,	5 00	
West Newton Post Office, lock boxes,	4 00	
J. F. Brown, ringing bell,	6 00	
Thomas Woodman, "	6 00	
E. F. Moses, "	6 00	
Benj. H. Hoar, "	6 00	
Frank J. Hale, "	3 00	
Geo. W. Chamberlain, "	3 00	
C. L. Wilson, making returns of deaths,	3 00	
H. N. Hyde, services as Warden,	2 00	
<i>Amounts carried forward,</i>	<hr/> \$6,178 34	<hr/> \$5,000 00

<i>Amounts brought forward,</i>		\$6,178 34	\$5,000 00
W. S. Slocum,	services as Warden,	8 00	
Stephen Thacher,	" "	6 00	
J. H. Dolliver,	" "	4 00	
W. S. Cargill,	" " etc.,	7 00	
Lewis E. Coffin,	" " "	5 50	
L. A. Ellis,	" " "	4 00	
C. A. Drew,	" Clerk,	4 00	
Henry Lemon, Jr.,	" "	2 00	
Edward H. Mason,	" "	6 00	
Charles H. Noyes,	" "	6 00	
H. H. Mather,	" "	4 00	
James W. French,	" "	4 00	
Charles L. Clark,	" "	4 00	
H. P. Dearborn,	" Inspector,	6 00	
L. H. Cranitch,	" "	6 00	
O. F. Lucas,	" "	6 00	
F. E. Hunter,	" "	6 00	
Eugene B. Baker,	" "	6 00	
Charles A. Moulton,	" "	6 00	
Sam'l M. Jackson,	" "	6 00	
Edwin W. Gay,	" "	6 00	
Harley A. Smith,	" "	6 00	
John T. Thomason,	" "	6 00	
Rand, Avery & Co.,	printing reports,	19 25	
Sundry small bills,		109 50	
Total, as per item No. 26 of expenses,			6,431 59
Balance overdrawn, transferred into Treasury,			\$1,431 59

NEWTON FREE LIBRARY.

Appropriation,		\$7,000 00
Hannah P. James, services, Librarian,	\$800 00	
<i>Amounts carried forward,</i>	\$800 00	\$7,000 00

<i>Amounts brought forward,</i>	\$800 00	\$7,000 00
Caroline B. Jackson, services, ass't librarian,	500 00	
Louise J. Smallwood, " " "	252 94	
Etta P. Cleaveland, " " "	239 98	
Millie E. Michaels, " " "	179 76	
Lizzie M. Rand, " " "	11 00	
Lottie Wilkins, " " "	7 92	
James J. Tower, services, janitor,	600 00	
A. M. Hooker, " "	10 00	
Hannah P. James, sundry cash payments,	96 72	
A. Williams & Co., books,	1,023 58	
N. J. Bartlett & Co., "	378 70	
Henry Sotheran & Co., books,	205 75	
Old South Book Store, "	176 24	
Lockwood, Brooks & Co., "	166 57	
Dr. B. K. Pierce, "	135 60	
Estes & Lauriat, "	107 00	
Noyes, Snow & Co., "	96 90	
Moses H. Sargent & Sons, "	93 61	
American Library Association, books,	44 51	
James P. Magee, agent, "	35 35	
Frost & Adams, " etc.,	29 78	
A. S. Weed, "	28 00	
Harrison Ellery, "	18 00	
B. F. Stevens, "	11 79	
James Littlefield, "	6 00	
Boston Daily Advertiser, subscription,	20 00	
Library Journal, "	17 00	
The Chicago Tribune. "	12 00	
M. Halstead & Co., "	12 00	
George W. Armstrong, "	11 00	
Post Publishing Co., "	10 00	
New York Herald, "	10 00	
The World, "	10 00	
New York Tribune, "	10 00	
The Evening Post, "	9 00	
Journal Newspaper Co., "	9 00	
<i>Amounts carried forward,</i>	<hr/> \$5,385 70	<hr/> \$7,000 00

<i>Amounts brought forward,</i>	\$5,385 70	\$7,000 00
Globe Printing Company, subscription,	9 00	
Charles C. Fulton, “	9 00	
The Press Co., “	8 75	
Frederick McCrellish & Co., “	8 00	
The Springfield Republican, “	7 00	
The Boston Herald, “	6 00	
The Globe Newspaper Co., “	6 00	
H. G. Parker, “	3 20	
Luther Tucker & Co., “	2 50	
Orange, Judd & Co., “	1 50	
Readers' and Writers' Economy Co., supplies,	103 27	
Thayer & Stiles, supplies,	24 65	
A. R. Gay & Co., “	14 00	
E. Tarbell & Son, “	9 60	
Gilman Bros., “	4 80	
A. A. Kingman, “	4 50	
N. & W. Gas Light Co., gas,	511 20	
S. T. Blanchard, binding books,	215 05	
Albert Brackett, coal,	152 15	
Le Van S. Peck, gas saving machine,	55 00	
S. F. Carrier, hose, etc.,	18 60	
Water Department, use of water,	10 00	
Howard Bros., ice,	8 00	
Rand, Avery & Co., book labels,	7 50	
Chas. G. Francklyn, agent, freight,	6 25	
Worthley, Downes & Co., blankets,	6 00	
R. M. Yale & Co., material and labor,	19 50	
Orrin Whipple, “ “	17 33	
Edward Pike, “ “	12 72	
George P. Clark, “ “	7 00	
J. M. Estes, agency,	24 00	
W. F. Woodman, agency,	12 00	
J. J. Peck, “	6 67	
F. & E. Garland, expressage,	126 77	
Whitton & Co., “	33 31	
<i>Amounts carried forward,</i>	<hr/> \$6,856 52	<hr/> \$7,000 00

<i>Amounts brought forward,</i>	\$6,856 52	\$7,000 00
C. H. Jenison, expressage,	25 00	
W. D. Lathrop, "	25 00	
McIntosh Express, "	23 70	
W. G. Bosworth, "	18 20	
T. L. Whitton, "	14 67	
George L. Pearson, "	70	
	<hr/>	
Total, as per item No. 27 of expenses,		6,963 79
		<hr/>
Balance unexpended, transferred into Treasury,		\$36 21

NEWTON FREE LIBRARY. PUBLISHING CATALOGUE, (SPECIAL.)

Appropriation,		\$1,000 00
Marie L. Clapp, services preparing manuscript,	\$275 00	
Rand, Avery & Co., printing catalogue,	672 50	
Readers' and Writers' Economy Co., slips,	5 74	
	<hr/>	
Total, as per item No. 28 of expenses,		953 24
		<hr/>
Balance unexpended, transferred into Treasury,		\$46 76

POLICE DEPARTMENT.

Appropriation,	\$15,500 00
----------------	-------------

Regular Police Officers.

Revillo L. Hinds, City Marshal,	\$1,200 00	
C. O. Davis, Sergeant of Police,	938 56	
James D. Henthorn,	860 00	
George W. Rigby,	897 50	
	<hr/>	
<i>Amounts carried forward,</i>	\$3,896 06	\$15,500 00

<i>Amounts brought forward,</i>	\$3,896 06	\$15,500 00
William C. Emerson,	900 00	
G. E. F. Baker,	900 00	
C. E. Davis,	897 50	
C. F. Richardson,	865 00	
N. F. Bosworth,	870 00	
John Ryan,	897 50	
C. P. Huestis,	891 25	
R. S. Harrison,	900 00	
George H. Marsh,	890 00	
E. G. Hurd,	892 50	
C. S. Boothby,	900 00	
	<hr/>	
	\$13,699 81	

Special Police Officers.

Charles L. Wilson,	\$307 50
F. B. Fletcher,	116 25
E. F. Moses,	32 50
C. W. Morgan,	10 00
J. C. Kennedy,	2 50
Peter Lee,	2 50
	<hr/>
Total pay of Police Officers,	\$14,171 06

* Incidental Expenses.

S. F. Cate, board of horse, etc.,	\$335 23	
Highway Department, board of horse,		
Ward 6,	143 18	
N. & W. Gas Light Co., gas.,	145 80	
William Byrne, services as detective,	122 50	
P. A. McVicar, material and labor,	75 35	
Albert Brackett, coal,	49 00	
Water Department, use of water,	42 00	
Hill & Langtry, supplies,	38 00	
H. A. Winship. “	10 50	
C. S. Tucker, harness,	30 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$15,162 62	\$15,500 00

<i>Amounts brought forward,</i>	\$15,162 62	\$15,500 00
J. C. Farrar, shoeing horse, etc.,	34 14	
A. Danforth & Co., " "	29 88	
J. McDonald, " "	12 13	
George W. Bush, horse and carriage hire,	63 00	
W. D. Lathrop, " "	38 25	
F. E. Wallingford, " "	38 00	
D. Harrington & Son, " "	8 00	
S. L. Pratt, " "	5 50	
J. T. Hill, " "	5 00	
W. H. Mague, " "	2 50	
S. P. Whitman, " "	2 00	
S. G. Williams, " "	2 00	
R. L. Hinds, - sundry cash expenses,	25 35	
J. D. Henthorn, " "	47 07	
George H. Marsh, " "	23 50	
George W. Rigby, " "	12 25	
C. F. Richardson, " "	12 30	
John Ryan, " "	4 60	
Mrs. L. J. Knowles, meals to prisoners,	5 10	
Sundry small bills,	18 70	
Total, as per item No. 29 of expenses,		15,551 89
Balance overdrawn, transferred into Treasury,		\$51 89

POOR OUT OF ALMSHOUSE.

Appropriation,		\$9,000 00
John Warner, services as Clerk of Board for 1878,	\$100 00	
C. F. Rand, services as Overseer, Ward 1, for 1878,	50 00	
A. T. Sylvester, services as Overseer, Ward 2, for 1878,	50 00	
<i>Amounts carried forward,</i>	\$200 00	\$9,000 00

<i>Amounts brought forward,</i>	\$200 00	\$9,000 00
O. F. Lucas, services as Overseer, Ward 3, for 1878,	50 00	
I. W. Bird, services as Overseer, Ward 4, for 1878,	50 00	
H. C. Hoyt, services as Overseer, Ward 5, for 1878,	50 00	
George Warren, services as Overseer, Ward 6, for 1878,	50 00	
John Warner, services as Overseer, Ward 7, for 1878,	50 00	
Worcester Lunatic Hospital, care of sundry persons,	781 46	
Asylum for Chronic Insane, care of sundry persons,	386 20	
Northampton Lunatic Hospital, care of sundry persons,	178 88	
Taunton Lunatic Hospital, care of sundry persons,	137 51	
Danvers Lunatic Hospital, care of sundry persons,	25 20	
Commonwealth of Massachusetts, care of sundry persons,	104 00	
C. J. Adams, Master, care of sundry persons,	19 87	
City of Boston, support of poor,	275 55	
City of Lowell, " "	32 00	
City of Fall River, " "	20 00	
Town of Watertown, " "	141 19	
Town of Canton, " "	83 00	
Town of Gardner, " "	64 00	
Town of Needham, " "	45 41	
Town of Sherborn, " "	26 38	
Town of Dover, " "	24 67	
Town of Brookline, " "	12 00	
Town of Hadley, " "	3 00	
Town of Waltham, " "	2 73	
<i>Amounts carried forward,</i>	<hr/> \$2,813 05	<hr/> \$9,000 00

<i>Amounts brought forward,</i>		\$2,813 05	\$9,000 00
Mrs. C. C. Voorhees, board of Miss Crawley,		53 00	
Mrs. Anna McLaughlin, board of Taffe children,		43 00	
M. R. Stevens, rent of house,		24 00	
H. R. Robbins, services and expenses as undertaker,		39 00	
James McGourty, services and expenses as undertaker,		12 00	
C. L. Wilson, services and expenses as undertaker,		6 00	
Charles Cole, services and expenses as undertaker,		3 00	
E. Tourjee, funeral expenses Mr. Huston,		12 00	
Bridget Wright, funeral expenses Patrick Wright,		10 00	
Almshouse Department,	wood,	105 67	
Reed, Hawkins & Reed,	flour,	78 00	
C. Strout & Sons,	groceries,	314 50	
G. Wadleigh,	"	308 58	
W. O. Knapp & Co.,	"	245 76	
J. B. Murphy,	"	203 87	
H. P. Barber,	"	152 91	
Dimond & Wetherbee,	"	147 50	
H. W. Fanning & Son,	"	121 75	
H. B. Coffin,	"	111 03	
Blanchard & Atkins,	"	94 00	
I. R. Stevens,	"	86 00	
George H. Adams,	"	72 50	
H. A. Sherman,	"	70 14	
C. C. Cook,	"	63 28	
Greenwood & Co.,	"	49 50	
B. F. Tyler,	"	47 00	
Robertson & Sherman,	"	39 63	
J. W. Davis,	"	30 00	
F. & G. Robinson,	"	14 43	
<i>Amounts carried forward,</i>		<hr/> \$5,371 10	<hr/> \$9,000 00

<i>Amounts brought forward,</i>		\$5,371 10	\$9,000 00
B. Billings, groceries,		15 11	
J. B. Newell, “		9 53	
B. F. Houghton, “		6 00	
Albert Brackett,	fuel,	271 50	
J. W. Pearson,	“	241 27	
Paul & Cleveland,	“	174 45	
Waters & Inman,	“	152 70	
James Nickelson,	“	63 79	
C. F. Eddy & Co.,	“	13 63	
Daniel Warren,	“	3 25	
Dr. J. H. Bodge,	Medical attendance,	70 00	
Dr. H. B. Stoddard,	“	58 00	
Dr. H. B. Bradley,	“	58 00	
Dr. H. M. Field,	“	40 00	
Dr. James Utley,	“	23 00	
Dr. Eben Thompson,	“	22 50	
Dr. J. R. Deane,	“	22 00	
Dr. F. E. Porter,	“	15 00	
Dr. F. E. Crockett,	“	13 00	
Dr. Albert Nott,	“	10 00	
Dr. L. R. Stone,	“	8 00	
Dr. R. P. Loring,	“	8 00	
Dr. O. E. Hunt,	“	7 00	
Dr. J. F. Boothby,	“	6 00	
Dr. F. D. Lord,	“	5 00	
Dr. W. H. Hildreth,	“	5 00	
Dr. F. L. Thayer,	“	4 00	
Dr. E. P. Scales,	“	1 00	
Aug. Williams,	Medical prescriptions,	37 13	
John J. Noble,	“	20 78	
W. C. Gaudelet,	“	20 75	
Sam'l B. Sewall & Co.,	“	15 30	
Auther Hudson,	“	3 20	
George H. Ingraham,	“	1 05	
Morse & Fitch, provisions,		7 13	
John Stearns, milk,		16 27	
<i>Amounts carried forward,</i>		<hr/> \$6,819 44	<hr/> \$9,000 00

<i>Amounts brought forward,</i>	\$6,819.44	\$9,000 00
A. J. Gordon, boots and shoes,	6 25	
W. D. Lathrop, horse and carriage hire,	5 00	
W. H. Mague, " "	3 00	
Hunting's Express, expressage,	3 00	
W. H. McIntosh, "	3 00	
E. Ryan, supplies,	3 00	
S. M. Leathers, supplies,	3 00	
B. Randall, "	2 30	
Sundry small bills,	5 91	
John Warner, services as Clerk and Almoner, 1879,	700 00	
C. F. Rand, services as Overseer, Ward 1, 1879,	50 00	
A. T. Sylvester, services as Overseer, Ward 2, 1879,	50 00	
O. F. Lucas, services as Overseer, Ward 3, 1879,	50 00	
I. W. Bird, services as Overseer, Ward 4, 1879,	50 00	
H. C. Hoyt, services as Overseer, Ward 5, 1879,	50 00	
George Warren, services as Overseer, Ward 6, 1879,	50 00	
John Warner, services as Overseer, Ward 7, 1879,	50 00	
John Warner, amount paid to sundry persons,	322 95	
H. C. Hoyt, amount paid to sundry persons,	19 57	
Total, as per item No. 30 of expenses,		8,246 42
Balance unexpended, transferred into Treasury,		\$753 58

PUBLIC PROPERTY.

Appropriation,	\$6,400 00
<i>Amount carried forward,</i>	\$6,400 00

<i>Amount brought forward,</i>	\$6,400 00	
For sale of Old Engine House, Ward 5, per order of City Council,	150 00	
	<hr/>	\$6,550 00
Milo Lucas, balance on account of engine house, Upper Falls,	\$1,419 87	
William Petigrew, sundry repairs and alterations,	1,128 15	
W. A. Roffe, painting Mason school house,	443 00	
Sam'l D. Garey, sundry repairs,	392 52	
Charles S. Phillips, material and labor,	294 93	
Joel Goldthwait & Co., carpets,	293 68	
Simpson Bros., concreting,	260 96	
J. W. Conroy, painting Hyde school house,	263 70	
A. J. Fiske & Co., material and labor,	153 74	
A. G. Whitcomb, furniture,	140 04	
Lawrence, Wilde & Co., furniture,	123 11	
Smith & Co., desk,	100 00	
W. S. Higgins, material and labor,	96 37	
Tucker Manufacturing Co., supplies,	93 72	
S. F. Holway, balance for enlarging engine house, Lower Falls,	92 77	
E. L. & F. S. Rollins, shades, fixtures, etc.,	85 76	
W. H. French & Co., material and labor,	84 03	
W. S. Cargill, " "	70 78	
William Hockridge, paving in front of Hook and Ladder House,	70 00	
H. M. Darling & Co., supplies,	58 15	
W. P. Leavitt, material and labor,	55 37	
N. & W. Gas Light Co., gas,	55 20	
Orrin Whipple, sundry repairs,	46 09	
J. D. Billings, " "	45 49	
R. L. Hinds, cash paid for lounge,	35 00	
J. O. Evans & Co., painting, etc.,	32 95	
L. A. Gammons, material and labor,	31 81	
Charles Edward Parker, services as Expert,	30 00	
John H. Pray, Sons & Co., carpet, etc.,	29 53	
	<hr/>	
<i>Amounts carried forward,</i>	\$6,026 72	\$6,550 00

<i>Amounts brought forward,</i>	\$6,026 72	\$6,550 00
J. A. Doran, material and labor,	25 91	
Shepard, Norwell & Co., supplies,	25 62	
E. Howard & Co., clock,	22 50	
Charles A. Cole, iron work,	20 00	
William Bemis, material and labor,	19 53	
Highway Department, labor, men and teams,	19 00	
S. A. Sleeper, material and labor,	17 75	
S. B. Waite, fixtures, etc.,	17 00	
Wm. F. Soule, material and labor,	15 25	
S. F. Carrier, " "	15 07	
Dwight Chester, Treasurer, improvement		
Centre green,	15 00	
Speare, Gregory & Co., oil,	14 00	
L. Hicks, material and labor,	13 88	
O. B. Leavitt, " "	12 05	
McLean & Henderson, " "	11 41	
John Farquhar's Sons, " "	11 23	
Jones, McDuffee & Stratton, supplies,	10 47	
Edward Pike, material and labor,	10 47	
Sundry small bills,	181 66	
	<hr/>	
Total, as per item No. 31 of expenses,		6,504 52
		<hr/>
Balance unexpended, transferred into Treasury,		\$45 48

PUBLIC SQUARES.

Appropriation,		\$500 00
John Joyce, labor, etc.,	\$6 00	
W. E. Fuller, labor, men and teams,	394 00	
Newton Cemetery Corporation, labor,		
men and teams on Centre green,		
Ward 6,	100 00	
	<hr/>	
Total, as per item No. 32 of expenses,		\$500 00

SALARIES.

Appropriation,		\$10,200 00
William B. Fowle, Mayor,	\$1,000 00	
E. J. Collins, Treasurer and Collector,	1,166 66	
E. J. Collins, for Assistant,	700 00	
John A. Kenrick, Treasurer and Collector,	833 30	
John A. Kenrick, for Assistant,	500 00	
Peter Thacher, City Solicitor,	1,000 00	
Benjamin F. Otis, City Auditor,	1,600 00	
Isaac Hagar, Chairman Assessors,	1,200 00	
Samuel M. Jackson, Assessor,	700 00	
Howard B. Coffin, “	700 00	
Hosea Hyde, Clerk of Common Council,	300 00	
Orrin Whipple, Assistant Assessor,	36 00	
Joseph Walker, “	64 00	
O. F. Lucas, “	48 00	
Joseph J. Rider, “	60 00	
S. N. Woodward, “	62 00	
George Warren, “	92 00	
John Warner, “	48 00	
Joseph D. Wellington, Sealer of Weights and Measures,	75 00	
Total, as per item No. 33 of expenses,		10,184 96
Balance unexpended, transferred into Treasury,		\$15 04

SINKING FUND, WATER BONDS.

Appropriation,	\$12,750 00
Amount paid Commissioners of Sinking Fund, as per item No. 34 of expenses,	\$12,750 00

SINKING FUND, CITY DEBT.

Appropriation,	\$12,250 00
Amount paid Commissioners of Sinking Fund, as per item No. 35 of expenses,	\$12,250 00

SCHOOLS.

General Appropriation, — Educational Department.

General Appropriation for Schools,	\$72,150 00	
Received from Dog Tax,	1,014 30	
	<hr/>	
	\$73,164 30	
Transferred to School Incidentals and Repairs,	1,380 29	
	<hr/>	
		\$71,784 01

Expenditures in Detail.

Ephraim Hunt, Superintendent,	\$2,700 00
Isaac Hagar, Sec. School Board,	300 00
	<hr/>
	\$3,000 00

High School.

Francis A. Waterhouse, Master,	\$2,700 00
Ezra W. Sampson, Sub-Master,	1,850 00
John F. Kent, Assistant,	1,275 00
S. Warren Davis, “	937 50
S. Alice Worcester, “	1,062 50
Caroline Spear, “	1,062 50
M. Abby Smith, “	918 75
Mattie E. Foote, “	918 75
	<hr/>
	\$13,725 00

Drawing.

Emma F. Bowler, Instructress,	\$800 00
-------------------------------	----------

Military Drill.

R. G. Carter, Instructor,	\$400 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$14,925 00	\$71,784 01

Amounts brought forward,

\$14,925 00 \$71,784 01

Calisthenics and Elocution.

Jennie E. Ireson, Instructress, \$400 00

District No. 1.

Albert L. Harwood, Master, Mason School,	\$1,962 50
Mary L. Searle, Head Assistant, Mason School,	750 00
Maria F. Wood, Assistant, Mason School,	600 00
Emma I. Henshaw, " "	600 00
Mary Tenny, " "	600 00
Hannah H. Taft, " "	600 00
Harriette E. Bird, " "	468 75
Lottie P. Harbach, " "	375 00
Kate Taylor, " "	375 00
Ellen M. Cook, " "	360 00
Margaret Martin, " "	290 00
Ellena H. Thompson, " "	225 00
Mary E. Minter, Principal, Oak Hill School,	750 00
Helen A. Davis, Principal, Thompsonville School,	750 00
Walter C. Frost, Master, Prospect School,	562 50
Martha L. Perkins, Head Assistant, Prospect School,	750 00
Ella F. Crooker, Ass't, Prospect School,	600 00
Mary P. Fanning, " "	600 00
Helen Norwood, " "	600 00
Lizzie W. Everett, " "	568 75
M. Marion Miller, " "	375 00
Lilla M. Means, Principal, Hyde School,	750 00
Cevilla R. Richardson, Assistant, Hyde School,	375 00
Alotta E. Stearns, Assistant Hyde School,	375 00

Amounts carried forward,

\$29,587 50 \$71,784 01

<i>Amounts brought forward,</i>	\$29,587 50	\$71,784 01
Alice M. Hammond, Ass't Hyde School,	225 00	
Alice F. Whitcomb, " "	225 00	

District No. 2.

Luther E. Leland, Master, Hamilton School,	1,962 50	
Ellen M. Leland, Head Assistant, Hamilton School,	243 75	
Anna G. Swain, Head Assistant, Hamilton School,	701 25	
Sarah H. Jumper, Ass't, Hamilton School,	518 75	
Clara Bancroft, " "	150 00	
George L. Chandler, Master, Williams School,	562 50	
Elizabeth A. Pinnock, Head Assistant, Williams School,	750 00	
Ella F. Brown, Assistant, Williams School,	600 00	
Susan E. Copeland, " "	600 00	
Ann B. Smith, " "	600 00	
Phebe W. Bunker, " "	375 00	

District No. 3.

Levi F. Warren, Master, Pierce School,	1,962 50	
Sarah A. Warren, Head Assistant, Pierce School,	750 00	
Mary J. Pickering, Assistant, Pierce School,	600 00	
Eliza E. Simmons, Assistant, Pierce School,	600 00	
Ella G. Bates, Principal, Davis School,	750 00	
Calista S. Wood, Assistant, " "	600 00	
Sarah E. Foster, " "	600 00	
Lucy E. Davis, " "	600 00	
Elizabeth F. Paddock, Principal, Franklin School,	656 25	

<i>Amounts carried forward,</i>	<u>\$44,220 00</u>	<u>\$71,784 01</u>
---------------------------------	--------------------	--------------------

<i>Amounts brought forward,</i>	\$44,220 00	\$71,784 01
Emma J. Thompson, Assistant, Franklin School,	693 75	
Susan P. Richmond, Assistant, Franklin School,	600 00	
Mary E. Tufts, Assistant, Franklin School,	375 00	
William A. Spinney, Master, Adams School,	562 50	
Jennie L. Morehouse, Head Assistant, Adams School,	750 00	
Estella M. Haynes, Assistant, Adams School,	600 00	
Lydia A. Brierly, Assistant, Adams School,	600 00	
Alice Pitts, Principal, Claflin School,	750 00	
Lilla T. Wilder, Assistant, "	600 00	
Mary R. Ware, " "	555 00	
Lizzie Flint, " "	600 00	
N. Gertrude Bean, " "	33 75	

District No. 4.

H. Chapin Sawin, Master, Bigelow School,	1,962 50	
Clara C. Prince, Head Ass't, " "	468 75	
Eudora Sanford, " "	656 25	
Martha M. Bakeman, Ass't, " "	600 00	
S. Louise Shelton, " "	600 00	
Josephine H. Waters, " "	600 00	
Anna F. Gage, " "	600 00	
Mary H. Dwyer, " "	600 00	
Emma M. Cleary, Assistant, Underwood School,	600 00	
Annie L. Wood, Assistant, Underwood School,	600 00	
Josephine W. Littlefield, Assistant, Underwood School,	600 00	
Isabel M. Ayers, Assistant, Underwood School,	50 00	
<i>Amounts carried forward,</i>	<u>\$58,877 50</u>	<u>\$71,784 01</u>

<i>Amounts brought forward,</i>	\$58,877 50	\$71,784 01
Allotta C. Wilmarth, Assistant, Lincoln School,	600 00	
George G. Edwards, Principal, Jackson School,	783 00	
Edward E. Sparhawk, Principal, Jackson School,	97 50	
John C. Lyeth, Principal, Jackson School,	93 75	
Abby J. Warner, Ass't, "	600 00	
H. Augusta Millard, " "	600 00	
Ella M. Hotchkiss, " "	600 00	
Ellen F. Dalrymple, " "	375 00	
Jeannette A. Grant, " "	375 00	
Louisa W. Stearns, " "	375 00	
Louise W. Clelland, " "	225 00	

Janitors.

John Cummings, High and Claflin,	650 00
John McCamman, Bigelow, Underwood, and Lincoln,	626 00
Thomas Woodman, Mason,	540 00
Thomas Johnson, Pierce and Davis,	425 00
Jeremiah McNamara, Adams and Jackson,	400 00
J. L. Randall, Prospect,	300 00
Martin Walsh, Williams,	275 00
Bridget Cox, Franklin,	200 00
James H. Boit, Hamilton,	180 00
Enoch Houston, Hyde,	180 00
H. F. Sanderson, Oak Hill,	96 00
John Mohr, Thompsonville,	96 00

Fuel.

Albert Brackett, coal,	\$3,498 01
James Nickelson, wood,	308 00

Total, as per item No. 36 of expenses,	71,375 76
Balance unexpended, transferred into Treasury,	\$408 25

SCHOOL INCIDENTALS AND REPAIRS.

Appropriation,	\$8,000 00	
Transferred from General appropriation for Schools,	1,380 29	
		\$9,380 29
Knight, Adams & Co., books, stationery, etc.,	\$3,167 91	
Milo Lucas, sundry repairs,	441 48	
A. G. Whitcomb, furniture, etc.,	417 14	
Water Department, use of water,	385 00	
Henry McElwin, blackboards,	349 48	
Rand, Avery & Co., printing reports, etc.,	341 70	
Ephraim Hunt, board and care of horse and carriage,	250 00	
The Smith Organ Co., upright piano,	250 00	
Peabody & Whitney, supplies,	227 95	
O. B. Leavitt, furnace work, etc.,	220 20	
Charles E. Small, repairs on roofs, etc	177 06	
Alpheus W. Snow, furnace work, etc.,	161 18	
E. B. Bowen, Treasurer, for rent of Thomp- sonville school house,	150 00	
J. O. Evans & Son, painting Underwood school house,	150 00	
Simpson Bros., concreting,	140 87	
H. F. Wellington, sundry repairs,	126 78	
N. & W. Gas Light Co., gas,	120 00	
J. C. Farrar, sundry repairs,	112 08	
H. M. Stimson, printing,	103 25	
John Farquhar's Sons, sundry repairs,	97 18	
E. W. Sampson, sundry cash expenses,	93 65	
F. E. Hamblin, sundry repairs,	91 65	
Amos Hodgdon, whitening Bigelow School,	80 00	
J. H. Daniels, diplomas, graduating class,	79 65	
Sidney P. Clark, sundry repairs,	76 12	
<i>Amounts carried forward,</i>	\$7,810 33	\$9,380 29

<i>Amounts brought forward,</i>	\$7,810 33	\$9,380 29
New England School Furniture Co., furniture, etc.,	70 48	
George E. Bridges, taking census of children from 5 to 15,	65 00	
A. B. Crane, sundry repairs,	64 28	
George T. Weston, material and labor,	54 05	
Isaac Smith, " "	50 20	
James Claffy, cleaning vaults, etc.,	48 00	
Thayer & Stiles, supplies,	43 00	
Cranitch & Horrigan, painting, etc.,	42 51	
D. F. McAllister, furnace work, etc.,	41 52	
B. Bradley & Co., clock and repairs,	43 50	
F. H. Hunting, expressage,	39 30	
A. J. Fisk & Co., furnace work, etc.,	38 15	
John Lynn, cleaning vaults,	36 00	
Benjamin Fewkes, sundry repairs,	35 97	
W. P. Leavitt, " "	34 83	
W. A. Roffe, painting, etc.,	33 99	
Charles Scott, material and labor,	33 00	
Isaac Hagar, sundry cash expenses.	28 53	
J. L. Randall, sundry repairs,	28 20	
John H. Hoyt, tuning and repairing pianos,	25 75	
L. S. Holman, painting, etc.,	28 17	
J. Q. Bradish & Co., pens,	25 00	
R. L. Hinds, services as truant officer, 1877,	25 00	
J. C. Kennedy, " " 1877,	25 00	
F. E. Hinds, " " 1877,	25 00	
R. L. Hinds, " " 1878,	25 00	
C. O. Davis, " " 1878,	25 00	
J. D. Henthorn, " " 1878,	25 00	
G. E. F. Baker, " " 1878,	25 00	
Linus Hicks, whitening Pierce School,	23 13	
Whitney Warner & Co., piano cover,	20 00	
Allen Jordan, material and labor,	19 73	
C. C. Pottle, sundry repairs,	17 15	
W. L. Smith, " "	16 69	
George B. Randall, " "	15 15	
<i>Amounts carried forward,</i>	\$9,006 61	\$9,380 29

<i>Amounts brought forward,</i>	\$9,006 61	\$9,380 29
Rishworth Jordan, repairing lightning rods,	15 00	
George W. Choate, repairing clocks,	14 75	
W. S. Cargill, repairing furniture,	14 68	
V. Haffermehl, resetting glass,	14 00	
Asahel Wheeler, chloride lime,	12 52	
A. L. Harwood, sundry cash expenses,	12 99	
M. W. Tewksbury, books for Mr. Hunt,	11 73	
Ward & Gay, supplies,	11 65	
J. E. Trowbridge, sundry repairs,	34 06	
A. J. Macomber, repairing clocks,	11 50	
C. H. Jenison, expressage,	11 40	
Hallet & Davis, tuning and repairing pianos,	11 00	
F. E. Garland, sundry repairs,	10 50	
W. S. Cushman, “	9 67	
Wm. B. Neil, gas fitting,	9 73	
Greenwood & Co., supplies,	9 19	
John Grant, sundry repairs,	9 00	
F. Jones' Express, expressage,	9 00	
Sundry small bills,	141 31	
	<hr/>	
Total, as per item No. 37 of expenses,		\$9,380 29

STATE AID.

Appropriation,		\$1,400 00
Joshua V. Ramsdell,	\$120 00	
S. C. Spaulding,	72 00	
Thomas Dinnean,	72 00	
W. Watson,	72 00	
Isaac Munroe,	60 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$396 00	\$1,400 00

<i>Amounts brought forward,</i>	\$396 00	\$1,400 00
N. D. Tibbetts,	54 00	
Ann Duvall,	48 00	
E. H. Belcher,	48 00	
M. Hagerty,	48 00	
B. Madden,	48 00	
T. Dolan,	48 00	
C. Gunnison,	48 00	
Eliza M. Jackson,	48 00	
L. T. Sanger,	48 00	
Mary Welch,	48 00	
E. Burke,	48 00	
Anna C. Boyd,	48 00	
Mary Duran,	48 00	
S. Fell,	48 00	
Mary A. B. Pratt,	48 00	
E. P. Pratt,	48 00	
Ann Mullen,	44 00	
Thomas Kehoe,	36 00	
T. McMahon,	18 00	
Catherine McAleer,	8 00	
	<hr/>	
Total, as per item No. 38 of expenses,		1,276 00
		<hr/>
Balance unexpended, transferred into Treasury,		\$124 00

STATE AID UNDER CHAP. 252, ACTS OF 1879.

John Curtin,	\$42 00	
Henry F. Bailey,	40 00	
Rasselas W. Ireland,	32 00	
Daniel Sullivan,	30 00	
James H. Lockley,	20 00	
William Jelly,	20 00	
Samuel Wallis,	18 00	
George E. Palmer,	8 00	
	<hr/>	
Total, as per item No. 39 of expenses,		\$210 00

TEMPORARY LOANS.

Nov. 6.	Paid Commonwealth of Massachusetts,	\$80,000 00	
Nov. 8.	Paid Commonwealth of Massachusetts,	50,000 00	
Nov. 15.	Paid Note to W. F. Lawrence & Co.,	50,000 00	
Total, as per item No. 40 of expenses,			\$180,000 00

TAXES, 1879. STATE.

Amount assessed for State Tax,	\$8,040 00
Amount paid to State Treasurer, as per item No. 41 of expenses,	\$8,040 00

TAXES, 1879. COUNTY.

Amount assessed for County Tax,	\$11,615 58
Amount paid to County Treasurer, as per item No. 42 of expenses,	\$11,615 58

TAXES, 1879. NATIONAL BANK.

Amount paid to Commonwealth of Massachusetts, for non-Residents of Newton, National Bank shares, as per item No. 43 of expenses,	\$897 19
----------------------------------------------------------------------------------------------------------------------------------	----------

USE OF HYDRANTS.

Appropriation,		\$5,000 00
Water Department,	\$5,000 00	
Total, as per item No. 44 of expenses,		\$5,000 00

WATER CONSTRUCTION.

Total expenditure to Dec. 31, 1878,		\$789,146 86
Mill owners, damages for taking water from Charles River,	\$25,000 00	
Warren Foundry & Machine Co., iron pipe,	10,937 44	
Pay-rolls of laborers,	4,608 24	
Boston & Albany Railroad, freight,	1,106 22	
Chapman Valve Co., hydrants, etc.,	690 50	
Davis & Farnum Manufacturing Co., cast- ings, etc.,	663 56	
George Dunbar & Co., lead, shovels, etc.,	550 28	
United States Metallic Packing Co., pack- ing,	544 50	
Boston Machine Co., hydrants, etc.,	479 59	
J. D. Billings, building stable,	225 00	
M. Hewitt, blacksmithing,	212 62	
T. Stuart, labor, men, and teams,	204 37	
C. A. Cole, blacksmithing,	121 31	
Pattie & Perkins, hydrants,	112 95	
A. Peters, blacksmithing,	110 62	
E. E. Coffin, water gates,	84 00	
J. S. Newell & Co., hydrants, etc.,	76 67	
Chadwick Lead Works, lead,	70 16	
Thomas Belger, blacksmithing,	69 77	
John P. Keating, stone,	65 00	
<i>Amounts carried forward,</i>	\$45,932 80	\$789,146 86

<i>Amounts brought forward,</i>	\$45,932 80	\$789,146 86
W. G. Barker, supplies,	56 28	
C. S. Knowles, rubber boots, etc.,	52 91	
E. T. Holmes & Co., wire, etc.,	51 76	
Orrin Whipple, stakes, etc.,	46 00	
G. A. Goodyear, powder and fuse,	42 55	
W. G. Bosworth, expressage,	32 60	
G. W. Ulmer, services on telephone wire,	30 00	
Ludlow Manufacturing Co., jute ropes,	22 60	
John Buckley, labor,	22 50	
E. Keegan, blacksmithing,	21 00	
Michael Welch, labor,	21 10	
Thomas McKinley, inspecting pipe,	20 00	
H. R. Worthington, meters,	19 00	
Walworth Manufacturing Co., supplies,	19 00	
N. & W. Gas Light Co., gas,	16 79	
B. F. Barlow, blacksmithing,	16 55	
J. McDonald, “	13 25	
City of Boston, exchange in pipe,	11 78	
Paine & Morehouse, supplies,	10 80	
F. H. Hunting, expressage,	6 50	
J. C. Farrar, blacksmithing,	5 59	
Speare, Gregory & Co., oil and barrel,	5 42	
Jenkins Bros., supplies,	3 10	
G. J. Carlton, logs,	3 00	
W. H. Mague, carriage hire,	3 00	
G. Wadleigh, supplies,	2 88	
Union Water Meter Co., repairs,	2 50	
American Tube Works, brass tube,	1 75	
R. M. Lucas, services,	1 50	
W. L. Smith, material and labor,	1 00	
Barlow & McDonald, “	1 00	
J. Langtry, “	1 00	
H. N. Hyde, Jr., cash for express,	15	
Total, as per item No. 45 of expenses,	\$46,497 66	
<i>Amounts carried forward,</i>	\$46,497 66	\$789,146 86

Amounts brought forward, \$46,497 66 \$789,146 86

Received.

For freight refunded by Boston & Albany Railroad,	\$361 29	
As per item No. 33 of receipts,	361 29	
		46,136 37
Total expenditure to Dec. 31, 1879,		\$835,283 23

WATER MAINTENANCE.

Appropriation,		\$9,000 00
Moses Clark, Jr., services as registrar,	\$633 33	
Moses Clark, Jr., sundry office expenses,	25 72	
Albert S. Glover, services as registrar,	581 40	
Albert S. Glover, sundry office expenses,	17 15	
George L. Whitney, services as superin- tendent,	125 00	
George L. Whitney, board of City horse,	25 29	
George L. Whitney, rent of stable,	25 00	
H. N. Hyde, Jr., services as superinten- dent, etc.,	1,477 48	
H. N. Hyde, Jr., board City horse,	131 18	
H. N. Hyde, Jr., sundry cash expenses,	20 04	
Thomas Coughlan, services as engineer,	1,031 50	
O. T. Pettee, services as clerk,	94 60	
J. E. Warner, “	241 13	
J. C. Whitney, services as inspector, etc.,	414 25	
J. W. Kent, services as watchman, etc.,	540 00	
Pay roll of laborers,	1,583 73	
M. Hewitt, wagon and blacksmithing,	279 54	
George Dunbar & Co., supplies,	266 98	
<i>Amounts carried forward,</i>	\$7,513 32	\$9,000 00

<i>Amounts brought forward,</i>	\$7,513 32	\$9,000 00
C. H. & Edgar Snow, exchange on horse,	150 00	
James Nickelson, wood,	120 00	
Alvah Walker & Co., oil,	105 00	
J. Langtry, harness, etc.,	87 62	
Boston Car Spring Co., supplies,	77 54	
D. Harrington & Son, horse and carriage hire,	72 00	
Otis Pettée & Co., supplies,	54 87	
T. A. Ward, care of reservoir,	48 00	
The American Fire Hose Manf. Co., hose,	44 00	
Charles Mace, labor on engine, etc.,	43 63	
A. Danforth, blacksmithing,	42 55	
W. R. Nichols, examination of water,	30 00	
J. D. Billings, material and labor,	27 67	
Charles Scott, “	27 50	
S. F. Cate, horse and carriage hire,	29 25	
Mathew Kent, services on engine,	27 00	
W. G. Bosworth, expressage,	18 75	
G. Wadleigh, supplies,	26 43	
C. S. Knowles, hose, etc.,	25 37	
Patrick Linnehan, labor,	20 00	
E. Keegan, blacksmithing,	18 55	
E. F. Moses, material and labor,	17 50	
Paine & Morehouse, supplies,	17 02	
John P. Keating, carting wood,	15 00	
J. W. Pearson, coal,	14 30	
F. E. Wallingford, use of horse and car- riage,	14 00	
American Steam Packing Co., packing,	10 50	
Hills & Daniels, coal,	10 50	
Arthur Hudson, analyses of water,	10 00	
Simpson Bros., concreting,	10 00	
J. F. Warren, walnut cabinet,	9 50	
F. B. Sisson, use of pung,	9 00	
Union Water Meter Co., repairs,	8 75	
Frost & Adams, supplies,	6 30	
<i>Amounts carried forward,</i>	<hr/> \$8,761 42	<hr/> \$9,000 00

<i>Amounts brought forward,</i>	\$8,761 42	\$9,000 00
C. H. Jenison, expressage,	6 10	
J. S. Newell & Co., repairs,	5 00	
Quincy Harrington, filing saws,	5 00	
O. B. Leavitt, material and labor,	4 75	
Edward Pike, brackets, etc.,	4 75	
N. & W. Gas Light Co., gas,	3 90	
B. F. Barlow, blacksmithing,	3 75	
Charles A. Cole, “	3 50	
James A. Judd, supplies,	3 50	
H. Sherman, “	3 39	
Eaton's Express, expressage,	3 85	
Sewall, Day & Co., manila,	2 93	
Cranitch & Horrigan, material and labor,	2 53	
Waldo Bros., brick,	2 50	
Sundry small bills,	24 33	
	<hr/>	
Total, as per item No. 46 of expenses,		8,841 20
		<hr/>
Balance unexpended, transferred into Treasury,		\$158 80

WATER DEPARTMENT, METER AND SERVICE PIPE.

Appropriation,		\$5,000 00
Pay roll of laborers,	\$1,895 68	
H. R. Worthington, meters, etc.,	1,339 46	
George Dunbar & Co., service pipe, etc.,	862 06	
Davis & Farnum Manf. Co., supplies,	321 03	
J. S. Newell & Co., “	166 95	
Walworth Manf. Co., “	89 04	
Union Water Meter Co., repairs, etc.,	34 08	
J. C. Whitney, services as inspector,	32 50	
B. & A. Railroad, freight,	31 53	
	<hr/>	<hr/>
<i>Amounts carried forward,</i>	\$4,772 33	\$5,000 00

<i>Amounts brought forward,</i>	\$4,772 33	\$5,000 00
Chadwick Lead Works, solder,	22 86	
W. G. Bosworth, expressage,	11 82	
Jenkins Bros., supplies,	10 42	
E. R. Frost, digging trench, etc.,	10 21	
C. A. Cole, blacksmithing,	6 75	
T. Stuart, expressage,	5 00	
O. B. Leavitt, supplies,	6 55	
Thomas Belger, “	3 58	
J. Langtry, “	3 10	
Sundry small bills,	7 95	
	<hr/>	
Total, as per item No. 47 of expenses,		4,860 57
		<hr/>
Balance unexpended, transferred into Treasury,		\$139 43

SCHEDULE OF CITY PROPERTY, REAL AND PERSONAL.

Almshouse Department.

40 acres of land,	\$10,000 00	
Buildings,	5,000 00	
Personal Property,	3,000 00	
	<hr/>	\$18,000 00

City Hall Department.

City Hall, furniture and fixtures,	\$40,000 00	
City seal,	25 00	
City Stamps,	35 00	
Reports, statutes, and special laws,	300 00	
Set standard weights and measures,	100 00	
Record books,	200 00	
Book-cases, maps, etc.,	100 00	
	<hr/>	40,760 00
		<hr/>
<i>Amount carried forward,</i>		\$58,760 00

Amount brought forward,

\$58,760 00

Cemetery Department.

Land in Newton Cemetery,	\$2,000 00	
Tomb " "	800 00	
	<hr/>	2,800 00

City Engineering Department.

One transit, No. 1,	\$140 00	
One level,	120 00	
One transit, No. 2,	200 00	
One level,	120 00	
Draughting materials,	136 00	
Surveying "	48 00	
Tools,	12 00	
Stationery,	55 00	
Sundries,	25 00	
	<hr/>	856 00

Fire Department.

Steam Fire Engine House, No. 1 Engine, and apparatus, furniture, lock-up, dwelling-house, stable and land,	\$25,000 00	
Steam Fire Engine House, No. 2 Engine, apparatus, land, etc.,	25,000 00	
Steam Fire Engine House, No. 3 Engine, and apparatus, furniture, stable, lock- up, land, etc.,	28,000 00	
Hook and Ladder House, stable, land, etc., No. 2,	18,000 00	
Hook and Ladder Carriage, etc., Newton- ville,	800 00	
Hose Carriage, hose, etc., Newtonville,	1,500 00	
Engine House, land, etc., "	3,500 00	
Hose Carriage House, stable, etc., Au- burndale,	5,000 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$106,800 00	\$62,416 00

<i>Amounts brought forward,</i>	\$106,800 00	\$62,416 00
Hose Carriage, hose, etc., Auburndale,	800 00	
Hose Carriage House, stable, etc., Lower Falls,	7,000 00	
Hose Carriage, hose, etc., Lower Falls,	1,800 00	
Fire Engine House, engine, land, etc., Upper Falls,	2,000 00	
Fire Engine House, land, etc., Newton Centre,	4,000 00	
Hose, apparatus, hooks, ladders, etc.,	1,000 00	
Reservoirs for fire purposes,	2,000 00	
Fire Alarm Telegraph, including team, etc.,	16,000 00	
	<hr/>	141,400 00

Free Library Department.

Newton Free Library, building and land,	\$42,000 00	
Books,	10,000 00	
	<hr/>	52,000 00

Gravel and Gravel Lands.

Land	on Pearl Street,	Ward 1,	\$2,000 00	
"	on Jewett Street,	" 1,	2,000 00	
"	on Dalby Street,	" 1,	1,400 00	
"	on Dalby Street,	" 1,	500 00	
"	on Crafts Street,	" 2,	500 00	
"	on Cook Street,	" 2,	200 00	
"	on Watertown Street,	" 2,	1,000 00	
"	in North Village,	" 2,	600 00	
"	in North Village,	" 2,	300 00	
"	in North Village,	" 2,	500 00	
"	on Pine Street,	" 3,	250 00	
"	in Pine Street,	" 3,	550 00	
"	in Ward 4,		400 00	
Gravel	on Washington Street,	Ward 4,	1,000 00	
"	on Washington Street,	" 4,	1,400 00	
			<hr/>	
<i>Amounts carried forward,</i>			\$12,600 00	\$255,816 00

<i>Amounts brought forward,</i>	\$12,600 00	\$255,816 00
Gravel on Walnut Street, Ward 6,	600 00	
“ on Elliot Street, “ 5,	500 00	
“ on Parker Street, “ 5,	250 00	
Land on Willow and Centre Streets, Ward 6,	1,000 00	
Land on Florence Street, Ward 5,	1,100 00	
Land on Beacon Street, Ward 6,	200 00	
	<hr/>	16,250 00

Highway Department.

21 cart horses, \$225,	\$4,725 00	
17 horses used by Fire Dept., \$225,	3,825 00	
3 horses, \$100,	300 00	
1 horse for Superintendent of Streets,	150 00	
1 horse for Engineer,	50 00	
25 double and single carts,	2,500 00	
43 harnesses,	850 00	
4 double sleds, \$200,	800 00	
2 stone-crushers and houses,	4,000 00	
2 stone wagons, express wagon, carriage and sleigh,	390 00	
Tools, chains, derricks, blankets, etc.,	1,600 00	
	<hr/>	19,190 00

Lighting Department.

For 1,085 posts, lanterns, burners, etc., \$10,	10,850 00
----------------------------------------------------	-----------

Police Department.

Station-house, building and land, No. Village,	\$4,000 00	
Furniture and bedding,	50 00	
Furniture and bedding, Ward 1,	50 00	
Furniture and bedding, “ 6,	75 00	
Horse, wagon, and harness,	350 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$4,525 00	\$302,106 00

<i>Amounts brought forward,</i>	\$4,525 00	\$302,106 00
Horse, saddle, and bridle,	125 00	
14 pairs handcuffs, \$3 75,	52 50	
12 clubs, \$2 00,	24 00	
3 lanterns, \$4 00,	12 00	
14 badges, \$2 50,	35 00	
13 parade clubs and belts, \$3 60,	45 50	
Blankets,	20 00	
Record books,	25 00	
	<hr/>	4,864 00

School Department.

High School bl'd'gs, furniture and land,	\$57,000 00	
Mason School-House, " "	48,000 00	
Hyde " " "	22,000 00	
Prospect " " "	30,000 00	
Prospect " No 2. " "	6,000 00	
Oak Hill " " "	12,000 00	
Hamilton " " "	28,000 00	
Williams " " "	27,000 00	
Pierce " " "	32,000 00	
Davis " " "	13,000 00	
Franklin " " "	15,000 00	
Claffin " " "	31,500 00	
Adams " " "	22,000 00	
Bigelow " " "	34,000 00	
Underwood " " "	24,000 00	
Lincoln " " "	5,500 00	
Jackson " " "	14,000 00	
School apparatus,	5,000 00	
	<hr/>	426,000 00
		<hr/>
		\$732,970 00

Table Showing the Number of Polls, Real and Personal Estate of the City, Amount of Tax,
Rate per cent., Appropriations, etc., for Nineteen Years.

A. D.	Polls.	Real Estate.	Personal.	Total.	City, State and County Tax.	Rate.	Appropriations.	Houses.
1861.	2,056	\$5,644,285 00	\$1,955,835 00	\$7,600,120 00	\$57,804 88	\$7 20	\$47,500 00	1,330
1862.	1,989	5,476,805 00	2,495,821 00	7,922,620 00	56,599 17	6 60	35,000 00	1,374
1863.	1,911	5,504,367 00	2,988,195 00	8,492,562 00	64,968 65	7 20	40,000 00	1,399
1864.	2,046	5,637,755 00	2,309,021 00	7,946,776 00	78,000 55	9 50	52,500 00	1,421
1865.	2,118	5,736,185 00	3,390,075 00	9,146,260 00	113,991 12	12 00	60,000 00	1,438
1866.	2,297	6,394,835 00	4,560,724 00	10,955,559 00	114,149 59	10 00	75,000 00	1,491
1867.	2,438	7,227,285 00	4,995,127 00	12,222,412 00	153,990 88	12 20	95,000 00	1,552
1868.	2,736	9,104,567 00	5,366,602 00	14,441,169 00	193,208 88	13 00	160,000 00	1,671
1869.	2,937	10,288,610 00	5,634,266 00	15,922,876 00	188,990 46	11 50	150,000 00	1,826
1870.	3,055	11,407,070 00	6,330,922 00	17,737,992 00	222,514 71	12 20	185,000 00	2,077
1871.	3,199	12,770,420 00	6,615,593 00	19,386,013 00	223,521 32	11 20	185,000 00	2,230
1872.	3,420	15,792,950 00	8,463,904 00	24,256,854 00	334,314 87	13 50	291,050 00	2,392
1873.	3,659	18,446,275 00	7,537,775 00	25,984,050 00	384,089 84	14 50	333,300 00	2,523
1874.	3,917	20,032,800 00	8,048,645 00	28,081,445 00	372,893 53	13 00	320,000 00	2,657
1875.	4,089	21,073,495 00	7,882,374 00	28,955,869 00	399,085 46	13 50	351,000 00	2,876
1876.	4,334	21,128,120 00	7,072,845 00	28,200,965 00	392,201 13	13 60	330,004 99	3,004
1877.	4,045	20,007,025 00	6,627,488 00	26,634,513 00	370,319 38	13 60	402,200 00	3,057
1878.	3,882	18,694,105 00	6,408,825 00	25,012,930 00	352,942 43	13 80	378,400 00	3,150
1879.	4,010	17,456,655 00	6,330,697 00	23,787,352 00	326,959 64	13 40	367,850 00	3,178

TABLE

Showing amount paid for support of Poor out of Almshouse from 1851 to 1879, inclusive:—

1851	.	.	.	\$138 56	1866	.	.	.	\$643 72
1852	.	.	.	104 94	1867	.	.	.	1,268 08
1853	.	.	.	45 70	1868	.	.	.	1,464 53
1854	.	.	.	38 10	1869	.	.	.	2,019 28
1855	.	.	.	73 63	1870	.	.	.	2,197 41
1856	.	.	.	135 49	1871	.	.	.	3,713 39
1857	.	.	.	204 96	1872	.	.	.	2,884 79
1858	.	.	.	387 61	1873	.	.	.	3,066 59
1859	.	.	.	358 25	1874	.	.	.	3,895 51
1860	.	.	.	500 81	1875	.	.	.	5,553 79
1861	.	.	.	757 14	1876	.	.	.	9,336 14
1862	.	.	.	781 50	1877	.	.	.	10,259 57
1863	.	.	.	632 27	1878	.	.	.	8,284 10
1864	.	.	.	605 02	1879	.	.	.	8,246 42
1865	.	.	.	870 77					

SALARIES OF CITY OFFICERS, 1880.

Mayor,	\$1,000 00
City Clerk,	1,800 00
City Treasurer and Collector,	2,400 00
Assistant for Treasurer and Collector,	800 00
City Auditor,	1,600 00
City Solicitor,	1,000 00
Chairman of Assessors,	1,200 00
Two Assessors, each,	700 00
Assistant Assessors, each per day,	4 00
City Messenger,	900 00
Clerk of Common Council,	300 00
Sealer of Weights and Measures,	75 00

HIGHWAY DEPARTMENT.

Superintendent of Streets, two horses and carriage furnished,	\$1,200 00
Four Assistant Superintendents, each per day,	2 75
City Engineer,	1,600 00

FIRE DEPARTMENT.

Chief Engineer, team furnished,	\$1,200 00
Assistant Engineer,	300 00
Three Engineers of Steamers, each,	900 00
Four Drivers of Steamers and Hook and Ladder Co., each,	700 00
Eight Foremen of Steamers and Hook and Ladder and Hose Co., each,	80 00
Eight Assistant Foremen and Clerks of Steamers, and Hook and Ladder, and Hose Co., each,	65 00
Fifty-eight hosemen and ladder men, each,	60 00

POLICE DEPARTMENT.

City Marshal, team furnished,	\$1,200 00
Sergeant of Police,	950 00
Two Mounted policemen, each,	900 00
Thirteen policemen, each,	900 00
Two policemen, each,	750 00

POOR DEPARTMENT.

Seven Overseers of Poor, each,	\$50 00
City Almoner and Clerk of Board,	700 00
Warden of Almshouse,	550 00

WATER DEPARTMENT.

Water Registrar,	\$1,500 00
Superintendent of Water Works,	1,500 00
Engineer at Pumping Station,	1,200 00
Fireman and Watchman, Pumping Station,	600 00

SCHOOLS. .

Superintendent,	\$2,700 00
One teacher,	2,700 00
Four teachers, at \$1,900,	7,600 00
One teacher,	1,850 00
Three teachers at \$1,500,	4,500 00
One teacher,	1,400 00
One teacher,	800 00
One teacher,	1,200 00
Three teachers, \$1,000,	3,000 00
Two teachers, \$950,	1,900 00
Thirteen teachers, \$750,	9,750 00
Thirty nine teachers, \$600,	23,400 00
One teacher,	550 00
One teacher,	500 00
One teacher,	450 00
Three teachers, \$400,	1,200 00
Secretary of School Committee,	300 00

Janitors.

One Janitor,	\$650 00
"	626 00
"	540 00
"	425 00
"	400 00

One Janitor,	\$300 00
“	275 00
“	200 00
“	180 00
“	120 00
Two Janitors, at \$96,	192 00

LIBRARY.

Librarian,	\$800 00
Assistant Librarian,	500 00
Two assistants, for service, one shilling per hour.	

CITY CLERK'S REPORT,
1880.

REPORT OF THE CITY CLERK.

CITY OF NEWTON, CITY CLERK'S OFFICE,
CITY HALL, March, 1880.

B. F. OTIS, CITY AUDITOR :

Herewith I submit for publication my annual report of the Births, Marriages, and Deaths, for the year ending December 31, 1879.

The tables which have been carefully and accurately prepared, present facts in relation to 378 births, 107 marriages, and 248 deaths, an aggregate less by 21 than the aggregate for the previous year.

Further comparison shows that the number of births registered in 1879 was larger by three than those of the preceding year ; the number of marriages was smaller by 8 ; the registered number of deaths smaller by 16.

The natural increase of population, or excess of births over deaths, was 130, a number greater by 20 than the natural increase (111) in 1878.

The rate of births, marriages, and deaths, of Newton parties, in 1879, is as follows :

Births, 21.14 + to 1,000 of estimated population.

Marriages, 8.62 + to 1,000 " "

Deaths, 14.25 + to 1,000 " "

The excess of birth rate over the death rate is, 6.89 + per thousand, or .689 per cent,

One living child was born to every 47 of the population ;

one person in every 115 at all ages was married, and one person in every 70 died.

The number of still-births was 10.

MARRIAGES.

The whole number of marriages registered in 1878 was 115. In 1879 the number was 107.

The marriage rate in 1879 was 8.62, or of the 17,400 of the people (estimated) of all ages, 151 of the citizens of Newton were married.

The youngest person married was seventeen years of age, the oldest seventy-one.

DEATHS.

Consumption was the cause of death in forty-three cases, five less than in the previous year.

Diphtheria proved fatal in twenty-two cases, an increase of 214 per cent over the previous year.

The number of deaths from scarlet fever in 1878 was two, in 1879 the number was eight.

From returns made to this office the mortality from diphtheria and scarlet fever was small, considering the prevalence of these diseases.

In 1878 the number of males who died during the year exceeded the number of females by 30; in 1879 it was less by 24.

TABLE I. — Births, Marriages, and Deaths, 1879.

General abstract exhibiting the Births, Marriages, and Deaths, registered in the City of Newton, for the year ending December 31, 1879; distinguishing the sex and the parentage of children born, the nativity of persons married, and the sex and aggregate and average ages of the number who died.

Estimated Population of 1879.	BIRTHS.								
	Whole Number.	Sex.			Parentage.				
		M.	F.	Unk.	Am.	For.	Am. Fa. and For. Mo.	For. Fa. and Am. Mo.	Unk
	378	192	183	3	164	155	29	27	3*

MARRIAGES.

Couples.	Nativity.			
	American.	Foreign.	Am. Male and For. Female.	For. Male and Am. Female.
107	60	28	10	9

DEATHS.

Persons.	Sex.			No. whose ages are registered.	Ages in Years.	
	Males.	Females.	Unk.		Aggregate.	Average.
248	112	136		234	7,456	31.86+

*Foundlings.

TABLE II. — Births, 1879.

Distinguishing by months and by sex the registered number of children born alive during the year.

SEX.	MONTHS.												TOTAL.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Male, . .	11	8	14	16	18	13	15	12	22	18	18	15	180
Female, .	18	13	11	14	16	14	24	24	17	12	15	10	188
Totals, . .	29	21	25	30	34	27	39	36	39	30	33	25	368

TABLE III.

Distinguishing by months and by sex the registered number of still-births during the year.

SEX.	MONTHS.												TOTAL.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Male, . .		1	1	1	1		1		1				6
Female, . .	1										1		2
Not stated,		1							1				2
Totals, . .	1	2	1	1	1		1		2		1		10

TABLE IV. — Marriages.

Distinguishing by months, the number of marriages during the year.

COUPLES.	MONTHS.												TOTAL.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
107	7	10	5	7	13	11	6	5	9	12	12	10	107

TABLE V.—Marriages.

Exhibiting the social condition and ages, respectively, of all parties married during the year ending December 31, 1879.

AGGREGATE OF ALL CONDITIONS.

	All ages.	Under 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	65 to 75.
All ages,	214	9	92	65	19	14	7	1	3	1	2	1
Males,	107		35	40	11	10	4	1	3	1	1	1
Females,	107	9	57	25	8	4	3				1	

A.—FIRST MARRIAGE OF BOTH PARTIES.

All ages,	168											
Males,	84		34	36	8	5	1					
Females,	84	9	49	23	2	1						

B.—SUBSEQUENT MARRIAGE OF MALE, BUT FIRST OF FEMALE.

All ages,	30											
Males,	15			3	3	3	3	1	1		1	
Females,	15		7	2	4	2						

C.—SUBSEQUENT MARRIAGE OF BOTH PARTIES.

All ages,	10											
Males,	5					1			2	1		1
Females,	5				1		3				1	

D.—SUBSEQUENT MARRIAGE OF FEMALE, BUT FIRST OF MALE.

All ages,	6											
Males,	3		1	1		1						
Females,	3		1		1	1						

TABLE VI. — Deaths.

Distinguishing by months and sex the registered number of persons who died during the year.

YEAR.	MONTHS.												TOTALS.
248	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
SEX.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
Male, . .	10	8	12	14	7	6	4	16	12	9	9	5	112
Female, . .	14	6	15	9	7	15	5	11	16	14	14	10	136
Totals, . .	24	14	27	23	14	21	9	27	28	23	23	15	248

TABLE VII. — DEATHS.

The following Table shows the Number of Deaths from several Specified Causes, of each Sex, in each month, which were registered in the City of Newton for the Year ending December 31, 1879.

	Consumption.	Diphtheria.	Pneumonia.	Cholera Infantum.	Bright's Disease.	Still Born.	Heart Disease.	Cancer.	Old Age.	Scarlet Fever.	Bronchitis.	Convulsions.	Paralysis.	Apoplexy.	Meningitis.	Premature Birth.	Diarrhea.	Typhoid Fever.	Peritonitis.	Hemorrhage.	Jaundice.	Gastritis.	Congestion of Lungs.	Tuberculosis.	R. R. Accident.	Rheumatic Fever.	Brain Disease.	Croup.	Dropsy.	Epilepsy.	Cholera Morbus.	Erysipelas.	Inflammation of Larynx.	Puerperal Fever.	Eutectis.	Dysentery.	Lockjaw.	Chronic Rheumatism.	Violence.	Unknown.	Totals.		
Totals.	43	22	18	15	10	14	13	11	9	8	6	6	6	5	5	5	4	4	4	3	3	3	3	3	3	3	2	2	2	1	1	1	1	1	2	1	1	1	1	1	1	248	
Males.	17	12	11	8	3	7	6	5	4	5	3	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	112	
Females.	26	10	7	7	7	7	6	5	4	3	3	2	2	2	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	136	
Under Five Years.	5	4	4	8	7	7	6	5	4	5	3	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	43	
January.	6	4	4	3	7	7	6	5	4	5	3	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	24	
February.	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14		
March.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14		
April.	2	2	3	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23		
May.	4	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21		
June.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	27		
July.	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	28		
August.	5	5	4	1	1	1	1	2	2	1	1	1	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	29		
September.	4	2	1	5	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23		
October.	4	5	1	3	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23		
November.	5	1	3	1	2	1	3	1	1	3	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	23		
December.	3	3	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15		
Totals.	43	22	18	15	10	14	13	11	9	8	6	6	6	5	5	5	4	4	4	3	3	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1248

OVERSEERS' REPORT.

1880.

REPORT OF THE OVERSEERS OF THE POOR.

TO HIS HONOR THE MAYOR AND CITY COUNCIL OF NEWTON :

Gentlemen: — In submitting our Annual Report in compliance with the City Ordinance, we are happy to state that the appropriation, made for the maintenance and relief of the poor of the City, has more than sufficed to carry us through the year, leaving a balance of some thirteen hundred dollars (\$1,300) to revert into the City Treasury.

The number of applicants for relief has somewhat diminished, and in many cases the aid rendered has been for shorter periods of time.

There has been more employment for the laborer and mechanic, and the causes that for the past six years brought so many able bodied men as applicants to the City for relief are being removed by the returning activity of trade and the opening of new avenues of industry.

During the first three months of the year these causes had not begun to operate and the number of applicants for aid were quite as numerous as on previous years, but for the last nine months the improvement has been quite marked and we trust the time is not far distant when every man who is willing to work can find the work to do.

The experience of the year past has deepened the conviction that the best way to aid the poor is by assisting them to help themselves and that we can do them no greater injury than to allow them to lie down in helpless dependence upon the charity of others, and this evil becomes still greater when it permits them to live upon the public bounty until they unblushingly claim it as a right.

These considerations have convinced the Board that it was their duty to demand of every able bodied man who has applied for relief, that he shall give an equivalent in labor for the aid furnished, and such have received an order to work, under the direction of the Warden of the Almshouse, before they were aided from the public funds.

The experience of Providence, where this plan has been in operation since 1872, and of Boston and other cities of this Commonwealth, where the plan has been tried for shorter periods, is that the number of applicants from that class has been largely reduced, they (i. e. the applicants) coming to the conclusion that if they must work for the aid received they prefer to seek work for themselves.

We have, and always shall have, the aged who are past labor, the sick and widows with fatherless children, who being poor and dependent, can always rightfully look to the City for relief in their poverty, and who will either be fully supported in the Almshouse or relieved outside, but our aim is, as far as possible, to insist that the relatives of such shall assist in this work.

Considerable progress has been made in the work of registering the names of those applying for aid, together with the facts which go to show where they have a legal settlement under the laws of this State, that future Boards of Overseers may be able at once to ascertain where they belong; but this is a work that must be constantly revised as the laws of settlement are continually changing by the action of our Legislators.

During the year 1879, an act was passed by the Legislature giving a legal settlement in any city or town, to any woman

who has resided therein five years without receiving aid as a pauper, thus adding largely to the number of those who can legally claim relief from the City.

The amount expended to feed the tramps during the year exceeded by thirty-four per cent that of the year previous, the whole number cared for being 1,048 more than in 1878.

If this increase should continue it would seem to us wise for the City Council to make some provision whereby the Overseers can avail themselves of the power given them by the statute, of keeping them at work till 11 o'clock in the day, believing that such a course would greatly reduce the number.

The number of insane persons supported by the City in the different Asylums for the whole or a part of the year has largely increased, the whole number being fourteen as against eight last year. Five have died during the year and nine are still supported at the different State Institutions at the City's expense.

The whole number of families who have received aid during the year is 149, comprising 719 persons.

About two-thirds of these have a legal settlement in Newton, the balance have settlements in other cities or towns or have no legal settlement in the Commonwealth.

The amount appropriated by the City Council for relief of Poor out of Almshouse for the year 1879,
was

\$9,000 00

The expenditures have been

8,246 42

Leaving in the hands of the Treasurer a balance on appropriation for Poor out of Almshouse of

\$753 58

The expenditures were as follows :—

Salaries of Overseers and Clerk for 1878,
Cash payments to poor,

\$450 00

322 95

Amount carried forward,

\$772 95

<i>Amount brought forward,</i>	\$772 95
Groceries,	2,051 63
Fuel,	1,043 87
Clothing, shoes, etc.,	93 70
Board,	104 00
Medical attendance,	375 50
Medicines,	98 21
Burials,	82 00
Support of Insane,	1,561 25
Paid other cities and towns for support of Newton poor,	729 93
Support of tramps,	200 38
State Reformatory Institutions,	83 00
Salary of Almoner and Clerk,	700 00
Salaries of Overseers for 1879,	350 00
	<hr/>
	\$8,246 42

The amounts received from the State and other cities and towns are as follows: —

Commonwealth of Massachusetts,	\$998 35
Lynn,	36 46
Lexington,	13 00
Pittsfield,	20 63
Gloucester,	24 00
Watertown,	11 00
Chelsea,	6 98
Natick,	6 25
Grafton,	53 85
Concord,	48 88
Brookline,	5 88
Petersham,	71 80
Waltham,	56 01
Lunenburg,	14 51
Boston,	242 89
Miscellaneous,	20 58
	<hr/>
Total,	\$1,631 07

which deducted from the amount expended, leaves the net cost of Poor out of Almshouse for the year ending December 31, 1879, \$6,615 35.

ALMSHOUSE EXPENSES AND REPAIRS.

The City Almshouse and Farm, under the charge of Mr. N. D. Moody and his estimable wife, has been managed in a very able and economical manner, while the aged and infirm inmates have received every attention and care that their condition requires.

The whole number cared for in the house during the year was 33; admitted, 8; died, 1; discharged, 8; leaving the present number 20.

The health of the inmates during the year has been excellent, when we consider the advanced age and infirmities of many of them.

The receipts from the sale of produce of the farm during the year have not been as large as the year previous, owing to the drought of the early summer, and the damage to the crops from the severe storm later in the season.

The amount appropriated by the City Council for	
Almshouse expenses and repairs was	\$3,500 00
The amount expended was	2,853 00
	<hr/>
Leaving a balance in the Treasury of	\$647 00
The amount received for produce, wood, board, etc.,	
during the year was	\$1,205 36

which being deducted from the whole amount expended, leaves as the net cost of the establishment, \$1,647 64, which divided among the twenty-two inmates, the average number for the year, makes the cost per week for each person to be about \$1 44.

All of which is respectfully submitted for and in behalf of the Overseers of the Poor.

JOHN WARNER,

Clerk.

CITY MARSHAL'S REPORT.

1880.

REPORT OF CITY MARSHAL.

OFFICE OF THE CITY MARSHAL,
WEST NEWTON, Dec. 31, 1879.

TO HIS HONOR THE MAYOR AND CITY COUNCIL OF NEWTON :

Gentlemen:—I have the honor to present herewith the Sixth Annual Report of the Police Department of the City of Newton, for the year ending December 31, 1879.

The force in service and its transactions have not materially varied from the ordinary routine of previous years.

The Department as now constituted, numbers fifteen men, including the City Marshal, whose head-quarters are at the City Hall. The remainder of the force consists of a mounted Sergeant, assigned to patrol service at night through the several Wards of the City, two day officers, one at City Hall, the other at Newton Corner, and eleven patrolmen for night duty. A recent resignation leaves a vacancy in the latter unfilled.

In place of a mounted Sergeant, as now, I would recommend the appointment of two mounted patrolmen, one to be stationed at Newton Centre, and the other at Auburndale, and the ranking officer, selected from the fifteen men, to be stationed at the City Hall.

The compensation and expenses of the Department paid during the year, aggregate \$15,551 89, and the receipts into the City Treasury from the fees of officers, etc., have amounted to \$600 00, leaving the net expenditure \$14,951 89

Police Stations One, Two, and Four, which were remodelled and refurnished two or three years since, are still in good condition and furnish ample accommodation for present use.

Station Three at the City Hall, still remains notably in-

adequate and unfitted for the proper care and custody of those for whom its use is necessary. The demand for improvement at this Station has been frequently urged, both as a matter of safety and as a measure of sanitary consideration. As the attention of the City Government will be more directly called to this subject, further reference is unnecessary in this connection.

The miscellaneous services devolving upon the members of the Police Force during the year, have been as usual, very numerous. But I am pleased to commend fidelity and efficiency, as a rule, exhibited in the discharge of these and other official duties.

The following enumeration of the years' transactions, will indicate the variety and character of the services rendered :—

General Statistics.

Number of Arrests,	334	Number of Search Warrants	
“ Males,	311	served,	5
“ Females,	23	“ Truants taken	
“ Americans,	40	to School,	38
“ Foreigners,	294	“ Provided with	
“ Minors,	74	Lodging,	2,728
“ Commitments,	26	Lost property restored to	
		owners,	\$3,543

Nativity of Prisoners.

United States,	40	Germany,	5
British Provinces,	3	Scotland,	1
Ireland,	253	Italy,	1
England,	13	Negro,	16
France,	1	Sweden,	1

Nature of Crime.

Assault and battery,	42	Common drunkard,	6
“ felonious,	2	Contempt of court,	1
“ on officer,	1	Disorderly,	15
Adultery,	2	Disturbing the peace,	65
Breaking and entering,	9	Drunkenness,	78
Bastardy,	2	Embezzlement,	1
Cruelty to dumb animals,	7	Evading car fare,	2

False representation,	1	Receiving stolen property,	5
Fornication,	2	Selling leased property,	1
Indecent exposure,	2	Stubborn children,	1
Larceny, simple,	36	Suspicious persons,	4
“ felonious,	2	Truants,	4
Malicious mischief,	2	Threatening bodily harm,	1
Obtaining goods under false		Violation of City Ordinance,	16
pretences,	2	“ Sunday law,	5
Polygamy,	1	“ Liquor law,	14
Perjury,	2	Vagrants,	4

Miscellaneous.

Accidents where assistance		Horses killed,	5
was rendered,	15	Injured persons assisted,	25
Buildings found open and		Intoxicated persons helped	
secured,	286	home,	132
Dangerous buildings,	3	Insane persons taken in	
Dead bodies taken in charge,	4	charge,	6
Defective lamps,	746	Lost children restored to	
“ sidewalks,	23	friends,	10
“ streets,	20	Lights hung in dangerous	
“ water pipes,	5	places,	24
“ gas pipes,	4	Nuisances,	26
Disturbances suppressed,	135	Notices served,	5,000
Dogs killed,	14	Stray teams put up,	12
Fire alarms given,	15	Street obstructions removed,	29
Fires extinguished without		Stray cattle taken in charge,	19
alarm,	6	Water running to waste,	17

One of the most difficult services expected from this Department, is the enforcement of the statute regulating the sale of intoxicating liquors. The acquirement of positive and unquestionable evidence necessary for conviction, has been and is the great obstacle to effective results. Although the most diligent and watchful surveillance has been exercised, the failure to secure direct proof has heretofore compelled the return of liquors in many instances of seizure. Much as we deprecate the existence of intemperance and the sale of liquors, there is yet good cause for congratulation, in the fact that drunkenness has materially diminished throughout the

City, and that the number of places for the sale of intoxicants has been greatly reduced within the past few years. That any shall be permitted to remain will be no fault of this Department whenever convictions can be secured.

Tramps.

During the past year the number of tramps lodged and cared for at the several police stations, have been in excess of the previous year, the increase being over one thousand. Perhaps the explanation for this increase is found mainly in the continued business depression of the country.

Conclusion.

In conclusion and without intending or implying criticism or complaint, I may be pardoned for saying that the duties of the City Marshal, as at present directed, have become so various and the combined responsibility so great, that extreme difficulty is often experienced in meeting every requirement with desired promptness and efficiency. This condition will be readily comprehended when it is remembered that that official now practically fills eight offices, four or five of them demanding almost constant care and attention. As an officer of the Board of Health, his calls have been numerous, and much time and labor have been required. Perhaps however, no material modification of this service may be deemed advisable. If not, all the duties of this office will be discharged as fully and efficiently as possible.

With many thanks for the courtesy and counsel which have greeted and aided me in the discharge of duty,

I am very respectfully,

Your obedient servant,

R. L. HINDS,

City Marshal.

ANNUAL REPORT
OF THE
SCHOOL COMMITTEE
OF THE
CITY OF NEWTON.

1879.

No. XL.



BOSTON:
FRANKLIN PRESS: RAND, AVERY, & COMPANY.
1880.

ORGANIZATION OF THE SCHOOL COMMITTEE.

January, 1879.

HON. WILLIAM B. FOWLE, MAYOR, CHAIRMAN, *ex officio*.
 JOHN Q. HENRY, PRESIDENT COMMON COUNCIL, *ex officio*.
 REV. AMOS E. LAWRENCE, CHAIRMAN.
 ISAAC HAGAR, SECRETARY.
 EPHRAIM HUNT, LL.D., SUPERINTENDENT.

<i>Elective Members.</i>		<i>Present Term of Office.</i>
THOMAS S. SAMSON, ¹	Ward One,	Expires January, 1880.
HENRY E. COBB, ¹	" "	" " 1880.
HENRY O. MARTIN,	" Two,	" " 1880.
HORATIO S. NOYES,	" "	" " 1880.
JULIUS L. CLARKE,	" Three,	" " 1882.
ELIJAH W. WOOD,	" "	" " 1882.
WILLIAM S. SMITH,	" Four,	" " 1882.
ISAAC HAGAR,	" "	" " 1882.
JOHN A. GOULD,	" Five,	" " 1881.
CHARLES E. ABBOTT,	" "	" " 1881.
JAMES S. NEWELL,	" Six,	" " 1881.
AMOS E. LAWRENCE,	" "	" " 1881.
GEORGE W. SHINN,	" Seven,	" " 1881.
LINCOLN R. STONE,	" "	" " 1882.

DISTRICT COMMITTEES.

NEWTON-CENTRE DISTRICT.

JAMES S. NEWELL, Newton Centre. JOHN A. GOULD, Newton Upper Falls.
 AMOS E. LAWRENCE, Newton Centre. CHARLES E. ABBOTT, Newton Highlands.
 GEORGE W. SHINN, Newton.

UPPER-FALLS DISTRICT.

JOHN A. GOULD, Newton Upper Falls. JAMES S. NEWELL, Newton Centre.
 CHARLES E. ABBOTT, Newton Highlands. AMOS E. LAWRENCE, Newton Centre.
 ISAAC HAGAR, Newton Lower Falls.

LOWER-FALLS DISTRICT.

WILLIAM S. SMITH, Auburndale. ELIJAH W. WOOD, West Newton.
 ISAAC HAGAR, Newton Lower Falls.

WEST-NEWTON DISTRICT.

JULIUS L. CLARKE, West Newton. ELIJAH W. WOOD, West Newton.
 HORATIO S. NOYES, Newtonville. WILLIAM S. SMITH, Auburndale.
 HENRY O. MARTIN, Newtonville.

¹ Elected in joint convention of city council and school committee.

NEWTONVILLE DISTRICT.

HORATIO S. NOYES, Newtonville.	LINCOLN R. STONE, Newton.
HENRY O. MARTIN, Newtonville.	THOMAS S. SAMSON, Newton.
HENRY E. COBB, Newton.	

NEWTON DISTRICT.

LINCOLN R. STONE, Newton.	GEORGE W. SHINN, Newton.
HENRY E. COBB, Newton.	JOHN Q. HENRY, Newton.
THOMAS S. SAMSON, Newton.	

STANDING COMMITTEES OF THE BOARD.

High School. — Amos E. Lawrence, Thomas S. Samson, Horatio S. Noyes, Julius L. Clarke, William S. Smith, John A. Gould, George W. Shinn, Mayor, *ex officio*.

Rules and Regulations. — George W. Shinn, Henry E. Cobb, Charles E. Abbott.

Accounts and Printing. — Isaac Hagar, Elijah W. Wood, Julius L. Clarke.

Schoolhouses. — Isaac Hagar, John A. Gould, Lincoln R. Stone.

Salaries. — James S. Newell, John Q. Henry, Henry O. Martin.

Text-Books. — Amos E. Lawrence, William S. Smith, Julius L. Clarke.

Music. — Amos E. Lawrence, Lincoln R. Stone, Elijah W. Wood.

Drawing and Writing. — Horatio S. Noyes, John Q. Henry, Thomas S. Samson.

Industrial Drawing. — James S. Newell, Charles E. Abbott, Henry O. Martin.

Evening Schools. — George W. Shinn, Lincoln R. Stone, Henry E. Cobb.

ORGANIZATION OF THE SCHOOL COMMITTEE.

January, 1880.

HON. ROYAL M. PULSIFER, MAYOR, CHAIRMAN, *ex officio*.
 CHARLES C. BARTON, PRESIDENT COMMON COUNCIL, *ex officio*.
 REV. AMOS E. LAWRENCE, CHAIRMAN.
 ISAAC HAGAR, SECRETARY.
 EPHRAIM HUNT, LL.D., SUPERINTENDENT.

<i>Elective Members.</i>		<i>Present Term of Office.</i>
THOMAS S. SAMSON,	Ward One,	Expires January, 1883.
THOMAS MARCY,	“ “	“ “ 1883.
E. FRANK HOWE,	“ Two,	“ “ 1883.
A. AMELIA SMEAD,	“ “	“ “ 1883.
JULIUS L. CLARKE,	“ Three,	“ “ 1882.
ELIJAH W. WOOD,	“ “	“ “ 1882.
WILLIAM S. SMITH,	“ Four,	“ “ 1882.
ISAAC HAGAR,	“ “	“ “ 1882.
JOHN A. GOULD,	“ Five,	“ “ 1881.
CHARLES E. ABBOTT,	“ “	“ “ 1881.
JAMES S. NEWELL,	“ Six,	“ “ 1881.
AMOS E. LAWRENCE,	“ “	“ “ 1881.
GEORGE W. SHINN,	“ Seven,	“ “ 1881.
LINCOLN R. STONE,	“ “	“ “ 1882.

DISTRICT COMMITTEES.

NEWTON-CENTRE DISTRICT.

JAMES S. NEWELL, Newton Centre. JOHN A. GOULD, Newton Upper Falls.
AMOS E. LAWRENCE, Newton Centre. CHARLES E. ABBOTT, Newton Highlands.
CHARLES C. BARTON, Newton Centre.

UPPER-FALLS DISTRICT.

JOHN A. GOULD, Newton Upper Falls. JAMES S. NEWELL, Newton Centre.
CHARLES E. ABBOTT, Newton Highlands. AMOS E. LAWRENCE, Newton Centre.
ISAAC HAGAR, Newton Lower Falls.

LOWER-FALLS DISTRICT.

WILLIAM S. SMITH, Auburndale. ELIJAH W. WOOD, West Newton.
ISAAC HAGAR, Newton Lower Falls.

WEST-NEWTON DISTRICT.

JULIUS L. CLARKE, West Newton. ELIJAH W. WOOD, West Newton.
E. FRANK HOWE, Newtonville. WILLIAM S. SMITH, Auburndale.
A. AMELIA SMEAD, Newtonville.

NEWTONVILLE DISTRICT.

E. FRANK HOWE, Newtonville. LINCOLN R. STONE, Newton.
A. AMELIA SMEAD, Newtonville. THOMAS S. SAMSON, Newton.
THOMAS MARCY, Newton.

NEWTON DISTRICT.

LINCOLN R. STONE, Newton. GEORGE W. SHINN, Newton.
THOMAS MARCY, Newton. E. FRANK HOWE, Newton.
THOMAS S. SAMSON, Newton.

STANDING COMMITTEES OF THE BOARD.

High School. — Amos E. Lawrence, Thomas S. Samson, E. Frank Howe, Elijah W. Wood, William S. Smith, John A. Gould, George W. Shinn, Mayor, *ex officio*.
Rules and Regulations. — George W. Shinn, Thomas S. Samson, Charles E. Abbott.
Accounts and Printing. — Isaac Hagar, Elijah W. Wood, Julius L. Clarke.
Schoolhouses. — Isaac Hagar, John A. Gould, Lincoln R. Stone.
Salaries. — James S. Newell, Charles C. Barton, E. Frank Howe.
Text-Books. — Amos E. Lawrence, William S. Smith, Julius L. Clarke.
Music. — Amos E. Lawrence, Lincoln R. Stone, A. Amelia Smead.
Drawing and Writing. — Charles C. Barton, A. Amelia Smead, Thomas Marcy.
Industrial Drawing. — James S. Newell, Charles E. Abbott, Elijah W. Wood.
Evening Schools. — George W. Shinn, Lincoln R. Stone, Thomas Marcy.

CITY OF NEWTON.

IN BOARD OF SCHOOL COMMITTEE, Sept. 24, 1879.

The following-named gentlemen were appointed to prepare the Annual Report of the School Committee for the year 1879; viz., Amos E. Lawrence, Thomas S. Samson, Elijah W. Wood, Lincoln R. Stone, and Charles E. Abbott.

ISAAC HAGAR,
Secretary.

IN BOARD OF SCHOOL COMMITTEE, Nov. 26, 1879.

The Annual Report was presented by Rev. Amos E. Lawrence, read and accepted, and twenty-eight hundred copies ordered to be printed.

ISAAC HAGAR,
Secretary.

TABLE OF CONTENTS.

	PAGE
GENERAL REPORT OF SCHOOL COMMITTEE	11-22
Public interest in our schools	11
Expenditures for 1879	12
Additional masters	13
Salaries	14
Music	15
Our graded system	15
Methods of instruction	16
Primary grades	17
Advanced class in the grammar-schools	21
Permanency of teachers	21
Conclusion	22
HIGH SCHOOL	23-44
Statistics	23
Last graduating class	23
Graduating exercises	24
Present system of instruction, — alleged defects	25
Calisthenics and military drill	31
Standard of admission	32
Mercantile department	33
Department of mathematics	35
Classical department	36
Department of natural sciences	37
Department of modern languages	41
GRADUATES OF 1879, HIGH SCHOOL	44
REPORT OF MASON SCHOOL	45
REPORT OF OAK-HILL AND THOMPSONVILLE SCHOOLS	48
REPORT OF PROSPECT SCHOOL	50
REPORT OF HYDE SCHOOL	52
REPORT OF HAMILTON SCHOOL	55
REPORT OF WILLIAMS SCHOOL	56
REPORT OF PEIRCE, DAVIS, AND FRANKLIN SCHOOLS	57
REPORT OF ADAMS SCHOOL	59
REPORT OF JACKSON SCHOOL	60
REPORT OF CLAFLIN SCHOOL	60

	PAGE
REPORT OF NEWTON DISTRICT	64
REPORT ON DRAWING	66
REPORT ON INDUSTRIAL DRAWING	70
REPORT ON MUSIC	72
REPORT ON EVENING SCHOOLS	75
SUPERINTENDENT'S REPORT	76-100
Summary of statistics	76
Promotion and other tables	78-81
Attendance	82
Teachers	83
Teachers' meetings	84
Instruction. — Promotion	85
The primary grades	88
Grammar grades	93
Penmanship, drawing, and music	95
Discipline	96
High School	98
SECRETARY'S REPORT	101-106

REPORT OF SCHOOL COMMITTEE.

TO THE CITIZENS OF 'NEWTON, — In compliance with the requirements of the Statutes of the Commonwealth, the School Board of the city of Newton respectfully submit to their fellow-citizens their Fortieth Annual Report.

PUBLIC INTEREST IN OUR SCHOOLS.

The lively interest taken by our citizens in their public schools is fully justified, not only by considerations of personal advantage to those who have children to be taught, but especially by the intimate connection of the schools with the public welfare. In a government by the people wide-spread ignorance is wide-spread danger. Bigotry, superstition, class prejudice, and narrow-minded indifference to the general welfare, attain their rankest growth where ignorance reigns, and find their legitimate cure and preventive in the universal intelligence. If the people are to make the laws, and administer the government, every thing will be imperilled by leaving them untaught. Here is at once the explanation and the sufficient defence of our public-school system. The government guards its own life, — seeks its own perpetuity. Society protects itself.

EXPENDITURES.

The accompanying report of the Secretary of the Board will show, that, of the \$82,864.30 available for school-purposes the past year, there has been expended the sum of \$82,260.08, leaving a balance of \$604.22, and showing a decrease of \$948 55 from the amount expended last year. This result is the more gratifying because it has been secured notwithstanding important additions to the corps of teachers which the Board have felt called upon to make during the year.

The expenditure for schools, exclusive of school-buildings, during the last six years, have been as follows :—

Expenditure for 1874	.	.	.	\$97,353 65
Expenditure for 1875	.	.	.	96,649 23
Expenditure for 1876	.	.	.	86,533 64
Expenditure for 1877	.	.	.	83,917 89
Expenditure for 1878	.	.	.	83,208 63
Expenditure for 1879	.	.	.	82,260 08

showing a reduction of \$15,093.57 as compared with 1874.

This, it will be admitted, is a very large reduction, especially when it is considered that the number of our pupils has meantime increased more than thirty per cent,—from 2,446 in 1874 to 3,397 in 1879. The reduction, however, would be no cause for congratulation if the result had been a degrading of our schools; if, in proportion as the expenses have diminished, the character of the teachers employed and the quality of the instruction furnished have depreciated. But this has not been true. It has never been the aim of the Board to see how cheaply the schools can be administered, but rather how well. In their judgment they have not been seriously injured; and their conviction is, that, as a

whole, they were never in better condition than they are at present. In one department only does the policy of curtailment seem to have wrought decided harm ; and to this we shall briefly refer hereafter.

ADDITIONAL MASTERS.

Allusion has already been made to important changes during the year in our corps of teachers. In the year 1872 our schools were under the care of eight head masters. This number was felt to be larger than was warranted by the finances of the town, and was very much larger, in proportion to the number of pupils to be taught, than in any other of the cities or towns of the Commonwealth. Accordingly, in September of the following year, they were reduced from eight to four. But the working of the new system was never wholly satisfactory, and from the first was sharply criticised by the districts affected, notably by Newtonville, Auburndale, and the Upper Falls. These districts felt that unjust discriminations were made against them, and in favor of other parts of the city no more deserving than they. The friends of such schools as had been deprived of their masters did not cease to urge their claims for the same advantages as were accorded to others, especially as they saw their claim strengthened from year to year by the steadily increasing number of their pupils.

The Board, therefore, decided, early in the year now under review, so far to retrace their steps as to limit the masters once more each to a single school, and to increase the number again from four to eight, except that one of the eight is, for the present, to have the title of principal instead of head master.

The publication of this purpose of the Committee

brought them numerous applications, from gentlemen of culture and experience, for the places to be filled; and the only embarrassment of the Board, but a grave one, was in making from so many excellent names a selection. The result was the choice of Mr. George L. Chandler for the school at Auburndale, Mr. Walter C. Frost for the Upper Falls, Mr. William A. Spinney for Newtonville, and Mr. George G. Edwards for the North Village. These are all gentlemen of thorough training, graduates of our best schools and colleges, and have all made proof of their capacity by years of success in teaching. We confidently hope to see in them here the same energy and skill they have shown elsewhere, and to find among their other qualifications for their office that union of caution with audacity that makes the progressive teacher,—the blending of a wise conservatism with a fearless questioning of existing methods that is not the less wise because it is inquiring and aggressive.

The Committee are happy to report that these changes have involved no increase of our annual expenses. The addition of the four masters made practicable the withdrawal of several subordinate assistants; and the saving thus effected, augmented by a small reduction in other salaries, has enabled the Committee to make this important addition to our teaching force without increasing the salary-account of last year.

SALARIES.

But, gratifying as this result is, we must add, that if the Committee are to guard, as heretofore, the best interests of our schools, and if the citizens of Newton demand of us that we do not imperil the honorable reputation the city has so laboriously won, we cannot

hold out the hope of further curtailment in our expenditures. We have repeatedly reduced the salaries of our teachers, till it is believed they have now reached the lowest point consistent with justice or safety. An incompetent pretender is dear at any price; and competent teachers must be competently paid, or they are lost to us. "Thou shalt not muzzle the ox that treadeth out the corn" is an injunction as wise as it is old; and certainly there is no true economy in starving the horse that draws the plough. The best interests of all concerned require that this question of salaries should be held as settled.

MUSIC.

There is another path on which we have reached, if we have not already passed, the limit of a wise economy. Two years ago the Board decided, though not without much misgiving, to dispense with the services of a special teacher of music; and Mr. W. S. Tilden, who had so long and honorably held that position, withdrew from our service. As a result Mr. Tilden's salary has for two years been saved to the treasury; but we are compelled to report that the music has declined. It is still taught in all our schools, and we require of all our teachers that they be able to sing, and to take charge of the daily musical practice. But our experience has shown and emphasized the need of a competent specialist to supervise the labors of the teachers, and impart that life and enthusiasm by which alone any thoroughly satisfactory work can be done.

OUR GRADED SYSTEM.

It is the fault of whatever system, when pressed to an extreme, that it interferes with healthful freedom

of action, and becomes repressive rather than helpful. This has proved true of our system of class grading. The acute and eager have been held back by the sluggish and the incompetent; the lazy fret and hinder the workers, and the *system* keeps them together. And yet we cannot give it up. It has too many advantages, and we have nothing to substitute in its place. We can modify it, however; and experience points out the way. Let there be allowed to the teacher and to the qualified supervisors of education a degree of discretion in the matter, let there be introduced into the administration of the system a measure of elasticity and freedom, and the evil and danger will disappear.

Without further discussion here, we commend, as worthy of particular attention, the observations on this subject in the accompanying report of the superintendent of schools, under the head of "Instruction and Promotion."

METHODS OF INSTRUCTION.

It is not our purpose in this report to discuss modes of instruction, or to claim that those adopted in the schools of Newton are the only good ones, or even that they are certainly the best ones. It is, however, true of them that they are not lifeless, are not dead forms; and mere routine work is not acceptable work. Our teachers are chosen and put in their places, not for their cart-horse quality, — their ability to draw a load of given weight over a beaten path in the regulation way, — but for their intelligence, wakefulness, and independence of thought and action. Teaching is recognized as a science, — one in which there are experts, indeed, and authorities to be respected as guides, but where

each one of the guild has responsibilities of his own. The mind has its laws of growth; and it is the privilege of every earnest teacher to study those laws, and the best way of working under them in the nascent minds before him. The philosophy of instruction has long had its earnest students, and has its acknowledged leaders; but it surely will not be claimed that the field has been so thoroughly explored that the end is reached, and nothing more remains but to follow in the beaten track. Inquiry and experiment, where they are earnest and conscientious, should still be welcomed; and the teacher should be encouraged to devise for herself the best ways of waking and guiding the minds in her charge. The outcome of this will inevitably be, in the primary grades especially, that life, freshness, and variety that will banish the traditional tedium of the class-room, and make school a pleasure. Another result, as naturally springing from this as light from the rising of the sun, will be the easy victory, by a wholly unconscious effort, over what were to *our* childhood the frightful bugbears of reading, spelling, writing, and number.

PRIMARY GRADES.

We have not far to go for an illustration of these general truths. The results gained the past year by our teachers of the primary grades, under the guidance of the superintendent, have been gratifying in the highest degree. Those who can recall their own child's experience in learning the alphabet, the dull monotony and listless drill of weary months, the thrill of joy when at last they had conquered the difference between b and d, p and q, 6 and 9, and were prepared to move

on to their "a-b-abs," could not fail to be gratified at the fruits of the first ten-weeks' training lately witnessed in our primary grades. The examination referred to extended to four of the primary classes in different quarters of the city, and was without any reference to the supposed superior excellence of the *material* of the classes. The average age of the children was a little above five years. They had had no previous training, were at the close of their tenth week of attendance, and had consequently been in the teacher's hands fifty school-days. Wishing to test the progress of these little ones, we carried with us a number of sentences printed *with the pen* on slips of paper, to be laid before the child, that he might first study them. There were twenty-four different sentences, involving the use of thirty-four different words, combined as variously as was consistent with the expression of a distinct thought. They were such as, "I see a bird in the tree," "Is the pig as big as the ox?" "The boy can spin a top," "Yes, I will run to you." The business-like and determined way in which each little head bent at once over the paper, and attacked the problem, was one of the most gratifying and suggestive things the visitors saw. It was as truly *study*, and independent study, as is the absorption of the collegian in the solution of his algebraic problem. For they were not allowed *to call the words* merely: they were expected to *read* them. They must know the sentences, therefore,—must comprehend the thought,—before they rose to read. They did know them; and, in less time than we have taken to narrate it, rose, and read them as easily and correctly as a professional elocutionist, with a naturalness of tone and cadence entirely faultless, because it *was* nature.

Further to test whether this was parrot-work, or whether *thought* was enlisted, we asked them if they could print for us something of their own on their slates. Hands were raised in assent, as many as there were little ones in the class, and three minutes later the slates were examined. One had printed, "I can see the pretty little kitty;" another, "I can see a little boy. Can he see me?" a third, "I can see a pretty little baby. Can the baby eat? Yes, the baby can eat." And each of them all had printed something conveying a thought. The letters of the several words were correctly and even gracefully formed. The right ones were in every case used; the capital letters, interrogation-point, period, and comma, were all right, and as they are given above. Their vocabulary was of course limited, and obviously no words would be used that they had not before learned and printed. But the point is, that they *had* learned them; for the combination was new, and the whole thing was evidently impromptu and alive. It should be added that this took place in each of the rooms visited, that our call was not expected, and that the teachers took no part in the examination. Here was certainly a noticeable achievement; for these are more than initial steps in all the difficult problems of reading, writing, and spelling, and was the fruit of fifty days' work.¹

Similar results, and flowing from the same attempt to follow the natural laws of development of the child's mind, were found in the classes of the second year. Here the process of writing had, of course, been carried farther, and the children were using the script

¹ The only needed modification of this statement is, that a small per cent of the class were enrolled in the spring.

characters. This they did with correctness, and some of them with great beauty and ease. To test their independence, and to learn how far they could make use of their attainments in the expression of thought, and how far they were mere copyists and slavish imitators, they were required to write from memory four lines of a poem they had just been repeating in concert. This, it will be admitted, was a severe test for pupils who had been only one year under instruction. The lines were written, — time, four minutes, — not all with equal excellence, but with correctness of spelling, capital letters, and punctuation, and, in some instances, without a fault. And when, later in our visit, they were required to write on their slates something of their own composition, the result was no less satisfactory than before.

In arithmetic, also, these children had made a degree of progress which will be very assuring to those who are in doubt whether children of so young an age can be expected to know any thing of number. Simple questions were answered by them, and even framed by them for their associates to answer, involving each of the fundamental rules of arithmetic; and while the words “addition,” “subtraction,” “multiplication,” and “division,” were unknown to them, all the *processes* were correctly performed. Something, also, of fractions they had learned, but this little by processes so natural that their ideas were evidently both clear and practical.

Here again we must refer to the superintendent’s report for a statement of the principles through the application of which these results have been gained by our teachers.

ADVANCED CLASS IN THE GRAMMAR-SCHOOLS.

The suggestion has been made by intelligent friends of education among us, that something is due to a considerable class of our pupils who cannot attend either of the High-school courses, or perhaps that school not at all, and who yet ask for something more than our grammar-grades as now limited are able to give. It is worthy of our consideration, whether, without any increase of our expenses whatever, there might not be added, for the benefit of such pupils, an advanced class, to be under the instruction of the master. For the instruction of such a class, our masters are all thoroughly competent; and it must be obvious at a glance that a *full course* of one additional year in the grammar-school could be more profitably administered than one-third or one-fourth of either course in the High School.

PERMANENCY OF TEACHERS.

By the present usage of the Board, our teachers hold their office for a single year, and, if retained beyond that period, do so by renomination and annual re-appointment. It is a grave question whether the supposed advantages of such a system are not more than outweighed by its obvious evils. By denying to the teacher a sense of security in his position it leaves him exposed to a degree of nervous unrest as he approaches the time of annual re-appointment, from which, it would seem, one who has earned the confidence of the Board by years of successful labor ought to be exempt. The practice, besides, finds little encouragement in the usage of other branches of the public service, where the incumbent holds his position, not by annual appointment,

but during good behavior. The judges of our courts, and the public teachers of our holy religion, are not supposed to be the less efficient because they hold their position under this rule. The same remark applies to many other appointments of trust and emolument under our State and National Governments; while the entire civil service, as is well known of European Governments, is made efficient and stable by the force of this simple principle, since it may well be doubted whether a more powerful incentive can be devised than the consideration that the appointee holds his place so long, and only so long, as he proves himself competent and faithful, i.e., "during good behavior."

CONCLUSION.

On the whole, then, we congratulate our fellow-citizens on the results of the year. The Board, feeling the responsibility of their trust, have made it their steady aim so to guard and foster the schools as to leave them inferior to none in the Commonwealth. The superintendent and teachers have co-operated with them in this aim; while our pupils, also, have cheerfully welcomed their share of the labor necessary to maintain the good name of their native city.

The condition and progress of the several schools is reported below by the various committees assigned to the duty by the Board.

In behalf of the Committee.

AMOS E. LAWRENCE, *Chairman.*

NOVEMBER, 1879.

HIGH SCHOOL.

THE whole number of pupils in attendance on this school the last year was 282, 6 more than the previous year, and 21 more than the year before. Of these, 145 were girls, and 137 boys. Of the whole number, 61 were in the college course, 29 in the mercantile, 193 in the general, making 237 in the regular courses, and leaving 45 who have been special students, — one more than last year. The average daily attendance was 232.7, or 91.9 per cent of the whole. The classes contained the following numbers: I., 34 regular and 6 special; II., 43 regular and 12 special; III., 68 regular and 9 special; IV., 92 regular and 7 special; and 11 (post-graduates and others) not classed. The average age of the pupils was, of the first or highest class, $17\frac{2}{3}$ years; of the second, 17; of the third, $16\frac{1}{6}$; and of the fourth, $15\frac{5}{12}$. This average will be found almost identical with that reported for the same classes last year, the first and fourth classes differing by only one month of time, and the third by two. The second class averaged the same in both years.

LAST GRADUATING CLASS.

Of the class who graduated in June last, thirty-one took the four-years' course, and the remaining thirteen

the three-years' course. Of these, five remain with us as post-graduates, deferring to another year, on account of their age, their entrance on college-life. Three are engaged in teaching, and are doing well. Eight have gone from us to higher schools and colleges, and one to the Normal School at Framingham. Three have entered at Harvard, two at Williams, and one each at Tufts, Smith, and Wellesley. In the examinations for matriculation at these several institutions our pupils acquitted themselves with credit, and well sustained the honorable reputation of our school and its teachers. If any of our citizens fear that their school is declining, these examinations for successive years ought to assure them that it is still worthy of their confidence. We have not done all we could wish, nor all we have aspired to do; but the records of the higher institutions to which our pupils have been sent will surely not accuse us of failure. Better results could unquestionably be gained, if the pupils of our school could be carefully selected, and the incompetent, the idle, and the mere diploma-hunter, could be sifted out from our classes. But the presence of such pupils is an evil not confined to the schools supported at the public expense. Private institutions are not exempt from them, and it surely would not be difficult to show that the doors even of our chartered academies and colleges are not effectually closed against the aimless and unworthy.

GRADUATING EXERCISES.

Similar evidence of the thorough work done in our school was given by the retiring class in their closing exercises on graduation-day. The large audience that filled the hall gave evidence of their interest by remain-

ing in their seats till the close of the protracted session. The essays were creditable to the several speakers, showing a degree of independence in thought, and extent of culture, that could only come of earnest labor, and that were quite inconsistent with the theory that the pupils had reached the end of a four-years' pastime. The elocution was not perfect, though it showed training and painstaking effort.

PRESENT SYSTEM OF INSTRUCTION, ALLEGED DEFECTS.

In the last report attention was called to a suggestion that a change in the curriculum of the High School was desirable ; and, while it was stated that a change for the better would be promptly adopted by the Board, and welcomed by the teachers, it was pertinently remarked that the proposed change would be a return to the system abandoned by us a few years ago, and, as it was then supposed, for valid reasons.

Those reasons it was not the purpose of the report to give. It is desirable, however, that they should be given, so that it may be clearly seen whether they were mistakenly or justly regarded as valid, and, consequently, whether it is advisable to play an abandoned *rôle* over again, or to adhere to our present system.

Under the old system, there were two courses of study,—the college course and the general course. The studies of the college course were conformed, as for obvious reasons they must be, to the requirements of the colleges. The general course was designed, as it now is, for pupils who finish their school education at the High School. The studies of this course were virtually all required ; that is, pupils were

required to take them all as a condition of graduation from the school. The college course answered its purpose reasonably well; but the general course proved defective, especially in the number and kind of studies. The number was too small for some pupils, and too large for others. Pupils that were able in body and mind could take more studies than were required; while pupils who were not very vigorous or clever were obliged, in order to do their work well, to take less.

In the kind of studies there was a similar want of adaptation. Studies that were well calculated for the training of one pupil were far from being always well calculated for the training of another; so that pupils either would pursue a study that was not adapted to their strength or capacity in a superficial or perfunctory sort of way, or would drop it altogether. As all the studies were required, whenever pupils dropped a study, they lost their right to graduate; and, in losing their right to graduate, they lost, naturally enough, much of their interest in their studies and in the school. Then they would drop other studies, and by and by they would drop themselves out of school. Bad examples are contagious. The spirit of "dropping" grew and multiplied, till classes found to their sorrow, when they reached the end of their course, that most of their members had dropped away. Not more than one in fifteen, sometimes not more than one in twenty, of those who entered the school at the beginning of the course, went through, and graduated.

For these reasons, the general course was revised, or, rather, an entirely new one was framed. As the evils of the old course grew out of its want of adaptation, the new one was made wider in its range of studies, and largely elective.

The superiority of the new course manifested itself in the more enthusiastic, and consequently more thorough work of pupils, and especially in the great proportional increase in the number of graduates. The number of a class when it graduated from the school, as compared with its number when it entered the school, was no longer as one to twenty, or as one to fifteen, but as one to five, and sometimes as one to three.

Later, another course was added,—the mercantile course. This course was designed to give pupils such general knowledge and training as would be serviceable to them in a business-life; and, if the number of pupils taking it be an indication of its utility, the course must be regarded as meeting a want in the community.

Under the present system, then, there are three courses,—the general course, the college course, and the mercantile course. In each of these courses certain studies are required, while others are elective. The elective studies predominate in the general course; the required studies, in the other courses. Moreover, pupils in one course are allowed, under certain restrictions, to elect studies from other courses. Both the mercantile course and the general course admit of improvement in certain particulars. The former especially would be bettered by diminishing the number of required studies. The college course, whether for better or for worse, must be conformed, as was previously said, to the requirements of the colleges.

Objections have been raised to the present system, certain of which it may be well to consider. It is supposed by some persons, that pupils have the exclusive right to elect their studies; and, as they are incompetent to do so, the elective feature of the system is pro-

nounced to be unwise. The answer to this is plain and decisive. Pupils have *not* the exclusive right to elect their studies. It is the duty of the parent or the teacher to guide or influence their choice. It is sometimes said that parents are not competent to aid their children in the election of studies. Admitting this to be true, they have the teachers to fall back upon. But the framers of the elective course did not admit this to be true. They believed that a large majority of parents sending children to our High School were intelligent enough to determine what and how much their children should study, — whether, for instance, they should take algebra instead of French, or twelve lessons a week instead of twenty.

It is sometimes even maintained that parents, though they know enough to choose studies for their children, should not be allowed to do so. They must take what is provided for them by the authorities, and ask no questions. No matter if an intelligent father objects to the initiation of his daughter into the mysteries of trigonometry; no matter if an intelligent mother is averse to German gutturals for her son, — trigonometry and German are prescribed, and must, therefore, be taken, or the children must be denied the privilege of the school. This is sufficiently autocratic. It may be the right system for some communities; but the School Board, when they introduced the elective feature, did not think it the right system for ours. They believed that with us, and in a school supported at the public expense, intelligent parents should be allowed a voice in determining the studies of their children, and contrived a plan to give that voice expression. But, even if pupils were to elect their studies, they could not go far astray.

In order to graduate from the school, pupils are required, under the present system, to take, as the minimum, twelve lessons a week throughout the course. Of these lessons, seven at least must be in prescribed studies: the remainder are in elective studies, any one of which could hardly fail to be of some advantage to the student, and could, whenever expedient, be easily changed for another.

Another objection is, that both teachers and pupils are distracted by the multiplicity of studies. A brief consideration of facts will show that this cannot be the case. The instruction in the school is largely departmental. The majority of our teachers have in charge but one or two branches each; the rest have a comparatively few branches each; and all have branches adapted to their several tastes and capacities. That, under this arrangement, teachers properly qualified for their position should be distracted by the multiplicity of studies passes understanding. The case with pupils is similar. Rarely, if ever, do pupils take so large a number of studies as to be distracted by them; and, even if this should happen, the distraction could easily be remedied by diminishing the number.

Another objection, for which there is still less ground, is, that the system makes superficial scholars. People glance at the wide range of studies, and, assuming that each pupil takes all the studies, conclude, that, where something of so many things is done, nothing can be done thoroughly. The conclusion is entirely right; but the premises are entirely wrong. No pupil ever did such a thing as to take all the studies. No pupil, even if so inclined, would be permitted to do such a thing. Such a thing would defeat a main end of the system. A

main end of the system — perhaps it would be better to say *the* main end of the system — is to afford pupils an opportunity, not of learning a little of every thing, but of learning a few things well, — a few things, not rigidly prescribed, but carefully selected; for, as there are many paths to a right culture, it is believed to be better for each pupil to take, so far as practicable, the path best suited to his mental and physical powers, than for all pupils, irrespective of their powers, to be forced to travel the same path.

Such are the objections to the present system commonly urged as most important. So far as they are not purely fanciful, they are based, it would appear, almost entirely on misconceptions of the nature and working of the system. Other objections there are; but they will generally be found either to lie against drawbacks for which there are compensating advantages, or to involve, not so much the distinctive features of the system as mere matters of detail. Even the advocates of the system are not quite satisfied with its details. They are willing to admit that here, at least, are certain defects which might well be remedied; such, for instance, as the number of hours a week assigned to certain studies, or the order in which certain studies are pursued. They would not, however, approve of having the remedy applied, as some well-meaning doctors advise, so as to sacrifice the system. Still less would they approve, if — as the old system was abandoned for reasons drawn from an experience of its defects — a return to it, or to any thing like it, should be brought about because of alleged defects in the new system that do not exist.

CALISTHENICS AND MILITARY DRILL.

During the past year the Board have continued the military drill and calisthenics. Bi-weekly exercises in the drill have been required an hour each for the boys, and, for the girls, a lesson in calisthenics of equal length at the same time. These have been under the charge of special instructors, competent by training and taste to do thoroughly well the work assigned them. First Lieut. Carter is a graduate of the West-Point Military Academy; and Miss Ireson is also a trained and enthusiastic specialist in her department. The combined expense of these two schools is six hundred dollars, — a sum so small as to give emphasis to the affirmation of one of our most prominent citizens, that he would not, for five thousand dollars, part with what had been done for his son alone by the military drill. For it must not be forgotten that it was the *physical defects* of the pupils that suggested these drills. Stooping forms in childhood are premature deformities; and, before the introduction of our system of physical culture, our rooms were full of them. Undeveloped muscles, sunken chests, and turtle-heads drawn down between rounded shoulders, were painfully frequent among both boys and girls.

The change for the better is most marked throughout the school; so that, with very few exceptions, the parents acknowledge the benefit to their children, and heartily thank this Board for what has been done.

It will be seen that the primary object aimed at was neither amusement nor exercise, but *culture*, — as truly so as in any other department of the school. A secondary aim, and yet certainly not an unimportant one, was, in the case of the boys, to give them the elements of a

science which they may at any time need, and which, in no unlikely emergencies, restless and turbulent men may force the government to use. Our citizens have had opportunity to see for themselves the soldierly bearing of the High-school battalion, and must acknowledge, that, whatever else the drill is, it is *not* mere boys' play. If our city government can find argument and justification for fostering the Claflin Guard at no inconsiderable expense to the treasury, it will not be difficult for them to sustain the School Board by annually granting the small sum needed to maintain in our High School the military drill.

STANDARD OF ADMISSION.

The qualifications for entering the High School have been prescribed by the rules of the Board, with a view to its *widest*, as well as best, influence as a school for all the people. The restrictions upon entering it are based on the supposition that it will best serve the public by maintaining a high standard of education, by making it, what its name implies, an *advanced* school, meeting the demands of the times, and reflecting honor upon our town. Between those who complain that too much is required, and those, on the other hand, who say that we are satisfied with too little, the Board have sought the golden mean, and have left the standard of admission unchanged. It does not seem that it is too high; and in the judgment of the Committee we cannot afford to make it lower, either by modifying the rule, or by careless or mere routine admissions under it. We regard it of primary importance that the examinations on which entrance is made to depend shall be honest and thorough; and this the superintendent

and masters are charged to secure. Added emphasis is given to this demand, not by any admitted failure in the past, but by the tone of public sentiment, and the suspicion that the high schools of our Commonwealth are depreciating in character and solid worth, and no longer afford an education equal to that of private and endowed academies. The warning thus given may well be heeded ; and if it be true that some deserve to die, it becomes us to maintain at least our present standard, if we would prove that we deserve to live.

The responsibility of guarding and promoting the well-being of all the schools of the city devolves alike on each member of the School Board ; but, for the purpose of securing a more effective supervision, the several schools are respectively given into the more immediate charge of individual members of the Board. A similar rule is adopted by the High School Committee, and the various departments will be found reported below by the gentlemen to whom they have been assigned.

AMOS E. LAWRENCE,
Chairman High School Committee.

THE MERCANTILE DEPARTMENT.

The establishment of a mercantile course in our High-school curriculum was an eminently wise and practical measure. Thus far, its results have proved successful and satisfactory. In its educational training, those who seek to become artisans, mechanics, merchants, or cultivators of the soil, or who contemplate other industrial pursuits, are favored with literary advantages and privileges equally adapted to their needs, as are those anticipating services in professional associations.

Of the number enrolled in this department at the commencement of the year, nineteen have been regular pupils, availing themselves of its entire course of prescribed study, so far as included in the year's programme. Others have devoted a portion of their time to mercantile branches in the several class exercises. As an evidence of popular favor and appreciation, it is a pleasure to record the enrolment of forty-two pupils in this course for the year 1879-80.

The master's systematic distribution of the work in this, as in other departments of the High School, has been exceptionally excellent, and, with the co-operation of his assistants in the adoption and application of the best methods of teaching, we are realizing in good measure the practical benefit contemplated in its establishment. In a grouping of the several branches pursued, the average rank attained in proficiency has been especially gratifying. Coupling this result with other and personal facilities for observation and judgment, it is only fair to say that the assigned studies have been mastered with a degree of intelligence and profit developing one of the most important elements of educational culture; viz., the discipline, growth, and encouragement of mental forces into harmonious and independent activity.

In view of the small proportion of our High-school attendants who continue their educational course in academic and collegiate relations, and of the notable fact that so large a number leave the school to enter, often immediately, into the active occupations of business-life, it becomes at once apparent that the importance and value of this department cannot be overestimated. In its judicious combination of classical

and scientific instruction, neither in undue excess, are found the most essential helps to the attainment of that mental culture and development so necessary to efficiency and success in a struggle with the world. Not only to our young men, but to our young women as well, it insures effectual means for the achievement of usefulness and greatness in every sphere of contemplated or probable effort. Endowed with such instrumentality, our mercantile department pre-eminently commends itself to parents and pupils.

JULIUS L. CLARKE.

MATHEMATICAL DEPARTMENT.

The writer of this report is gratified to find the administration of the mathematical department of the High School in very able hands, and working, so far as he has seen, with an efficiency and success worthy of unqualified commendation. It is still further gratifying to observe that this but repeats the spirit of previous reports upon this important branch of our school-work.

The practical adaptation of the mathematical course to the individual pupil is a matter not less difficult than important, and worthy yet of serious consideration. While for service in mental discipline, and for many and varied applications in practical life, the study of mathematics has ever held, and, for these permanent reasons, ever must hold, a wide and important place in every wise system of education, yet, still, the fact, fixed by the decrees of nature, must not be lost sight of, that the faculty for mathematics is a very variable gift, and one not corresponding with the average richness and power of the same mind on other lines. Therefore a

most wise discrimination is important here, both on the part of school boards and teachers, that the rules and regulations of the former, and the demands of the latter, should not be oppressive upon those whom no fidelity of their own, no excellence of instruction, nothing, save Omnipotence itself, can make good in mathematics. It is believed, that, by the optional element in the High-school course, the discretion of our teachers, encouraged and sustained by the School Board, will ever keep any useless pursuit of mathematical studies at a minimum.

But it is to be regretted, that, in our grammar-schools, there is no such accommodating flexibility, while there are not wanting cases in which the strict enforcement of the regulation-tests in mathematics for promotion, and the unqualified exactions of teachers, amount to nothing less than crimes against nature. I am not aware that there is any adequate provision for such cases.

An unfortunate incident of the year has made pertinent to this report the suggestion that it is hard to justify that arrangement of studies, especially under a professedly elective system, which keeps out of reach, till the third year, such very practical branches as commercial arithmetic and book-keeping, while so many of our young men entering business-life take no more than one or two years of the course.¹

W. S. SMITH.

THE CLASSICAL DEPARTMENT.

This department during the past year has been under the immediate charge of the master, aided by

¹ See page 30 preceding for "defects in the details" of our system. If a modifying order of the Board, already adopted, to cover this matter, shall be found insufficient, further action will no doubt be taken. — A. E. L.

Mr. Kent, Mr. Davis, and Miss Caroline Spear as assistants. The first three have taught both Greek and Latin; while, of the ancient languages, Miss Spear has taught Latin only. We refer to the statistics on p. 23 for the number of each class engaged in the study of the ancient languages, the number of the last graduating class who have entered college, and the institutions they have joined.

There has been in this department the same earnest work as in the past; and the same effort on the part of the teachers to awaken and sustain the interest of their classes has borne the same good fruit. The pupils, designedly thrown much on their own resources, have welcomed their tasks, not merely as required forms for the solution of a problem, — entrance to college, — but as opening doors of knowledge otherwise closed, and as the most effective means of intellectual training. If the Greek and Latin be dead languages, the dissection of them has at least been full of life. The study is made interesting; and pupils are never more wakeful than when they are called to deal with a page of Xenophon or Cicero.

AMOS E. LAWRENCE.

DEPARTMENT OF NATURAL SCIENCES.

The studies embraced in this department, the number of pupils, the average attendance during the year, and the average proficiency in each study, as indicated by the examination in June, will be shown in the following table: —

STUDIES.	No. of Pupils.	Average Attendance.	Recitations.		
			Perfect.	Good.	Deficient.
Physics . . .	78 in three divis'ns,	88 per cent.	20 per cent.	70 per ct.	10 per cent.
Botany . . .	59 in three "	89 "	16 "	64 "	20 "
Chemistry . . .	35 in two "	92 "	36 "	52 "	12 "
Astronomy . . .	30 in two "	85 "	23 "	65 "	12 "
Mathematics (re-view)	26 in two "	87 "	12 "	68 "	20 "
Commercial arithmetic	11 in one "	94 "	20 "	70 "	10 "
Book-keeping . . .	9 in one "	85 "	-	100 "	-
Politics (for young men)	8 in one "	95 "	10 "	85 "	5 "
Geometry, logarithms, &c.	1 . . .	99 "	-	96 "	4 "
	257	90 + pr. et.	21 per cent.	65 per et.	14 per cent.

The number of pupils, as given in the above table, and their average attendance, is believed to be correct, the latter being a little below the average of last year. Whether the average proficiency of the pupils during the year is as correctly indicated by their recitations at examination is more uncertain. If correct, the record must be deemed satisfactory.

All of the studies enumerated, a number of which are not supposed to belong to the department of natural sciences, are taught by the sub-master, Mr. Sampson; and the question naturally arises, whether one man can do full justice to such an array of studies and so great a number of pupils, especially when, as in this case, the teacher is much occupied with other details of the school.¹

Owing to the crowding of so many parasites into the natural science department, physiology, which more

¹ Our associate is forgetting, for the moment, the admitted competency of the sub-master to teach these branches, and that they are taught to different divisions of pupils, on different days, and in different terms of the school-year. That superficial instruction or study should result from these facts seems hardly a logical conclusion. Both will of course be elementary, but not necessarily superficial. — A. E. L.

naturally belongs to it, was given in charge of Miss M. Abby Smith ; and twenty pupils in that study were examined, with results, as to attendance and proficiency, very similar to those in the table.

H. S. NOYES.

Our High School is primarily designed for pupils who do not expect to continue their school-life beyond its walls. It has sometimes been represented that the energies of the teachers were given to *classical* instruction, and that the arrangement of the course contemplated chiefly the preparation of pupils for college. The opposite of this is the truth. Only a small minority of those who enter the school are looking to college ; and it is the aim, both of the teachers and the School Board, while not forgetting these, to give the best education possible to such as end their school-life with us. The natural sciences have therefore claimed no small share of their attention ; and whatever could be done, without too great an expense, to facilitate their study, has been wisely sanctioned by the Board. For this reason important changes have recently been made in the chemical room, involving slight expense, but greatly increasing its facilities. A window has been put in, fitted with inside shutters, for use in experiments requiring a dark room. The cabinet of minerals, and the case containing the metric system apparatus, have been removed, and permanently fitted in room 2. The force-pump, no longer needed, has been removed. The room thus obtained has been fitted up for work in qualitative and quantitative analysis. The fittings comprise a large hood, or case, with glass doors and glass ends, and having a pipe for ventilation, extending to the top of

the building, and passing out through the roof. This so-called hood is one of the best features of the room. It is five long, two feet high, and one foot deep, and is lined at the top with tin to prevent its taking fire; and is furnished with three gas-fixtures, which supply heat for the work. In it is done all work with gases which emit an offensive odor, are poisonous or injurious such as sulphuretted hydrogen and hydrofluoric acid; and such liquids as are very volatile and inflammable, such as bisulphuret of carbon, ether, &c. Beside this hood are two small dark closets for such chemicals as are affected by light. Around the walls of the room are fitted shelves for chemicals and glass-ware; and below these shelves are placed benches for the pupils to work at. These benches are sheathed up, thus providing closets below for keeping apparatus, and are fitted with drawers for tools and nicer pieces of apparatus. Gas-fixtures are provided for furnishing light for the large closet and the tank-room, when needed, and for supplying heat for chemical work. The best feature of the room is an ingeniously-contrived piece of apparatus, extending above and below the sink, by means of which the pupil is enabled to filter, with atmospheric pressure, in a few minutes, what would require hours by the old way. This instrument, which we call "The pump," will run five of these rapid filters at once, and at the same time produce five blasts of air for blow-pipe work; thus doing away with the slow and laborious process with the mouth blow-pipe in blow-pipe analysis. The instrument was made by Mr. O. B. Leavitt, from drawings which we furnished. It consists of a combination of lead and iron pipes, and a small copper air-chamber; contains no valves; can never get out of order; and will

last till the lead and iron wear out. Its cost is but a few dollars; and it supplies the place of ten separate pieces of apparatus, which, if purchased of the dealers in chemical ware, would cost (set up) about six hundred and fifty dollars.

These changes, now quite completed, have provided excellent facilities for five pupils to work at once (all the room will accommodate), which is equivalent to five hours a week of laboratory-work to twenty-five pupils. These changes have been made at the suggestion of the sub-master, Mr. Sampson, and under his supervision. The entire cost was a little over one hundred and fifty dollars.

A. E. L.

DEPARTMENT OF MODERN LANGUAGES.

In the French department, under the charge of Miss S. Alice Worcester, the classes this year are unusually large. The aggregate number of pupils in the High School electing the study of French exceeds that of last year by at least fifty (50). The college class numbers eighteen (18). The pupils in all the classes manifest an unusual and gratifying degree of interest and enthusiasm in their work. That much of this is due to the more systematic method of instruction pursued in this department can hardly be doubted. Keetel's Elementary Grammar has been substituted for that author's Analytical work, in order not only to an economy of time, but also to enable the teacher to direct the three-years' course in French to the best advantage of the pupil. Keetel's Analytical Reader has been introduced into the course, and is proving itself to be an excellent text-book. Under this improved method, the course in

French is assuming a shape which promises to give the pupils a thorough practical knowledge of the language, both written and spoken.

There were two classes in the German department last year. The advanced class was taught by Miss Worcester, and the class of those beginning the study by Miss Martha E. Foote. The latter class used Otto's German Grammar, studying about two-thirds of the grammatical part, going through the exercises, and reading some of the literature at the back of the book. The class also read some easy prose in Otto's German Reader. At the beginning of the year, the class numbered eighteen (18). Of these, a majority were special students, several of whom dropped out of the class during the year.

During the present year both classes in German are to be taught by Miss Foote. The class beginning the study numbers twenty-one (21), and the advanced class three (3). The class of beginners seems to take hold of the work with energy and interest, and it is believed is doing well. It is hoped that the advanced class will finish Otto's Reader this year, and read also some classic German prose or poetry. Of this class Miss Foote says, "They disappoint me by having a better pronunciation, and by being more fluent in translation, than I feared from last year's work."

To this statement of the work done in this department during the past, and proposed for the present year, the Committee beg leave to add an expression of the conviction that what is known as the "thorough," or systematic method of instruction in modern languages, is the best to be employed as regards both teachers and scholars. This method, as is known,

without ignoring the importance of being able to converse fluently in the language, aims to teach the pupil to translate and write it. The main grammatical principles and constructions of the language are presented in systematic order through oral and written exercises in rendering the language into the vernacular of the pupil, and *vice versa*. When the pupil has acquired a fair amount of such grammatical knowledge, he is introduced to a Reader containing carefully graded and annotated extracts from good authors, with abundant references to the grammar, together with writing and conversational exercises based on the extracts. These extracts are selected not only with the view of interesting the pupil, but also of increasing his knowledge in the principles and idioms of the language, and impressing them upon his mind. If faithfully carried out, this method enables the pupil to lay a deep and broad foundation of knowledge, upon which he can afterwards build to any extent, easily, surely, and satisfactorily. This is the method of Keetel in his French Grammar and Reader. There seem to be no text-books in German equal to those of Keetel in French. Otto's books, in the hands of experienced teachers possessing a thorough knowledge of the language, give excellent results, and should not be displaced except by books plainly and positively superior.

THOMAS S. SAMSON.

OCTOBER, 1879.

GRADUATES OF HIGH SCHOOL, 1879.

FOUR-YEARS' COURSE.

EDWARD L. BACON.	FLORENCE E. BRIGGS.
CHARLES E. BECK.	FRONA M. BROOKS.
CHARLES C. BOTHFELD.	MARY H. BUCKINGHAM.
LOUIS A. COOLIDGE.	MARY E. CHAPIN.
AARON R. CRANE.	CORNELIA COLLINS.
JOHN W. DICKINSON, JUN.	MARGARET CONVERSE.
SYDNEY HARWOOD.	JENNIE M. DANIELS.
WALTER H. HOLBROOK.	LIZZIE B. FROST.
FRANK A. MASON.	LIZZIE C. LAWRENCE.
OSCAR H. PERRY.	ELIZA J. LOVELY.
FRED M. RICE.	EMMA A. MOORE.
ARTHUR K. STONE.	NORMA I. MORSE.
CHARLES P. WORCESTER.	ANNIE P. PORTER.
MAUD L. ATKINSON.	MARION E. SHELDON.
FRANCES E. BOWEN.	LIZZIE G. TOMPSON.

SUSAN C. WOOD.

THREE-YEARS' COURSE.

JOSEPH W. BRIGGS.	EDWARD D. HOLMES.
WALDO W. COLE.	ALFRED G. LOYD.
JAMES H. McGOVERN.	GEORGE J. MARTIN.
LENDO G. SMITH.	IDA COLLINS.
CORNELIUS S. CORKERY.	LIZZIE H. HENRY.
HENRY J. COX.	ANNA M. POND.

FANNIE A. BUSS.

GRAMMAR-SCHOOLS.

NEWTON-CENTRE DISTRICT.

MASON SCHOOL.

MORE than the usual number of interruptions, interfering more or less with the progress of the classes, have taken place. Early in the year, Miss Ellen M. Cook, teacher of the first primary class, owing to failure in health, was compelled to relinquish her charge, it was hoped for a few weeks only; but the condition of her health soon made it evident that rest for the entire year was imperative. Miss Cook had proved herself a thoroughly earnest and successful teacher; and her loss to the school, even for a brief period, was to be regretted.

Miss Martin, who, by assisting in the primary classes, had gained some knowledge of the methods of instruction pursued, was appointed substitute. Her good judgment and determination to succeed enabled her to maintain a good degree of excellence in the class for the remainder of the year. With the beginning of the present term, Miss Cook has been able to resume her work, with promise of excellent results for the year to come. The first, third, and fourth classes have opened with so many pupils, that it has been found necessary

to temporarily appoint an assistant, whose time should be divided between these classes. Miss Martin has been appointed to the place.

Miss Ellena M. Thompson, teacher of the second primary grade, was also obliged, at the beginning of the year, to seek release in consequence of ill health. Leave of absence was granted her for the year. Miss Thompson had also proved herself a very successful primary teacher, conscientious and faithful. Miss Harriette E. Bird was appointed her substitute. Miss Bird had also availed herself, to some extent, of the opportunity afforded to gain a knowledge of the school by aiding the regular teachers, and was therefore the better qualified for the place. Her success was sufficient to justify the Committee in nominating her as teacher for the second class for the present year.

Miss Lottie P. Harbach, teacher of the third primary class, completed her third year with her usual marked success. Earnestness and enthusiasm were characteristic of her; and she was able to inspire her classes, in good degree, with these same elements of success. With the close of the year, Miss Harbach tendered her resignation, that she might seek the rest which five years of continuous labor in the Newton schools (two years in the Hamilton School) had rendered necessary for her. Miss Thompson, having so far recovered her health as to be able to resume her work, has been transferred from the second to the third class, as successor to Miss Harbach.

The year opened with an attendance in the fourth and fifth classes too large to be accommodated in their respective rooms, and each too large for one teacher to properly instruct. Accordingly, the larger part of the

fifth class was removed to the upper hall. Miss Clara A. Curtis, who had successfully taught this class for some two years, had resigned her position, much to the regret of both Committee and parents. Miss Mary Tenney, who was already experienced in the Newton schools, was appointed in her place. The remaining portion of the fifth class, with a portion of the fourth, was placed in charge of Mrs. Kate Taylor. The larger portion of the fourth class was placed in care of Miss Hannah Taft. The size and composition of this class made Miss Taft's work an arduous one for the year. Her success was as satisfactory as was to have been expected. Miss Taft commences the present year under conditions of better promise. With the opening of the present year, it became possible to discontinue Mrs. Taylor's class, composed of divisions from the fourth and fifth classes, which was accordingly done. Miss Tenney now has charge of the entire fifth class.

Miss Maria F. Wood continues the efficient teacher of the sixth class.

With the beginning of the year, Miss Emma J. Henshaw entered upon her duties as teacher of the seventh class. While she has done good work, it is but reasonable to presume, that with the year's experience in our schools, and the needs of the class being better understood, she will, in the year to come, be able to do better work than in the past.

The eighth and ninth classes have been successfully taught by Mr. Albert L. Harwood, master, and Miss Mary L. Searle, head assistant. Eighteen pupils of the ninth class received diplomas, and all but one certificates of admission to the High School. One also, from the eighth class, by double promotion, has been admitted to the High School.

It is a matter for congratulation that the grammar-schools of Newton begin the present year with an increase in the number of masters. A school, especially of the size of the Mason, having nine classes, and an aggregate number of about four hundred pupils, needs the entire time of one master.

In organizing under this new order, it was found advisable to remove the eighth and ninth classes to the upper hall, and use the former schoolroom for recitation purposes. This arrangement is found to be working with gratifying success; and the Committee are confidently anticipating that the results of the present year will abundantly prove the wisdom of this change.

JAMES S. NEWELL, *Chairman*.

OAK-HILL AND THOMPSONVILLE.

The number of pupils in the Oak-Hill School continues to be small, there having been enrolled three additional names only over the aggregate of the year last reported. These have been under the charge of Miss Mary E. Minter, so long the faithful principal of this school. Two of the pupils at the close of the year in June received diplomas testifying that they had honorably completed the course prescribed for the grammar-schools of Newton.

The necessities of the Oak-Hill School have seemed to your Committee to require a slight modification in its management, from which, under the guidance of the superintendent, good results are expected the coming year.

The school at Thompsonville continues in charge of Miss Helen E. Davis, and has opened the new year with a record-roll of thirty-five names, two less than it num-

bered at the close of the last school-year. These pupils are divided into three classes,—the first, second, and third, the older children of the neighborhood having been removed to the Mason School at the Centre. The average age of these classes is: of the first, five years; of the second, seven years and a twelfth; of the third, nine years and a twelfth.

The attendance has been good, and the teacher seems to succeed in awakening the interest of the children, and securing their attachment. The location of the school proves to be a great convenience to the neighborhood, by making it easily accessible to the youngest children, even in the roughest weather; affording them thus more days of instruction in a year than could otherwise have been secured.

AMOS E. LAWRENCE.

UPPER-FALLS DISTRICT.

PROSPECT SCHOOL.

BUT little can be said of the classes or of the teachers individually, without a repetition of the last report, with the exception of the filling of the vacancies existing at the first of the year. Miss Maud McWilliams was elected teacher of the second class, but, after a few weeks' service, was released, that she might take a school in Boston. Her successor was Miss Lizzie W. Everett, and Miss Helen Norwood was elected teacher for the third and fourth classes.

All the teachers have performed their allotted work successfully, each member of the ninth class having been prepared to enter the High School; and the pupils of the other classes, with but a few exceptions, were fitted for promotion at the close of the year. The exhibition of the work of the classes in their rooms, and the graduating exercises in the hall, were very interesting; and a generous, hearty approval was accorded by the visitors to all the teachers. The classes are evidently receiving much benefit from the wise direction given by the superintendent. All who fully realize the responsibilities which teachers assume, and the amount of work required of them, know that the position is not one to be sought for its ease. One of their indispensable duties,

and which is too often overlooked in estimating the amount of their labor, is their previous careful preparation on all the lessons of each day, without which, none can do their best work, and be prepared to meet the individual wants of their pupils. With whichever grade they may be connected, with a love for the work, they have a sphere of duty broad enough for the full exercise of the best talents, and an object to accomplish worthy of satisfying a reasonable ambition.

At the close of the year, Miss M. M. Miller, who had been an earnest worker, and successful teacher of the sixth and seventh classes for five years, declined to be a candidate for re-election, having made arrangements to assume, instead, the duties of a home.

Mr. Harwood's whole time will now be given to the Mason School, he having been for the past two years master of this in common with the Mason, Hyde, and Oak-Hill Schools, and in this time he has proved himself worthy of confidence, both as a gentleman and teacher.

To the parents, I will briefly allude to the change in our school system, which gives to the schools the benefit of a master's whole time and his undivided interest, which will be of much benefit to the upper classes; and, as we are situated, it has seemed to me to be one of our greatest wants that those scholars who enter the High School only to remain a short time, should, instead, have an opportunity to remain a year longer in our grammar-school. This, with a resolute purpose to accomplish certain work, would be much more profitable for them than to spend the same time in the High School.

Without undervaluing the influence of the female

teachers, I claim that there is no position (it being bounded neither by caste nor creed) which opens so many grand opportunities for exerting good influences on the young as that of a resident master for our public schools; and I shall be disappointed if our village does not receive the advantages anticipated from the change. In Mr. Frost we have a gentleman who is able and willing to work, in school and out, for the welfare of those who are intrusted to his charge, and who, in return, I trust, will receive your hearty co-operation in every good work he undertakes.

J. A. GOULD.

HYDE SCHOOL.

During the last school-year, the first and second classes have been under the charge of Miss Alotta E. Stearns, this being her sixth year in this school. It was generally conceded that this school had never, under her charge, done better than during the past year. The exercises, presented by the school on "Parents' Day,"—entirely prepared and managed by Miss Stearns,—were exceedingly interesting, and seemed to completely captivate the large attendance of parents, and other friends of the teacher and school. At the close of these exercises, Miss Stearns's pupils—through their right-hand *man*, Master Eddie Crane—presented her with an appropriate and suitably inscribed gift.

The very uniform and kindly temperament of this lady had secured for her, during her long engagement in this school, many warm personal friends. Her connection with the school ceased with the school-year.

The third and fourth classes have been under the charge of Miss Cevilla B. Richardson, this being her

second year in this school. Every thing considered, the school perceptibly improved during the last half of the school-year. There was an unusually large attendance of parents and others at the exercises of the last day of the term.

A very pleasant episode of these exercises was a presentation to the teacher of an appropriate keepsake from her pupils; Master Weston Allen acting as the *speaker* for the occasion. Miss Richardson's connection with the school closed with the school-year.

The fifth and sixth classes have been under the care of Mrs. Lilla M. Means, this being her second year. Besides having the exclusive care of these two classes, Mrs. Means is the acting principal of all the schools in the building. We use no unmeaning words when we record that this lady has not only done her specific work exceedingly well, but has been a judicious and efficient principal.

The exercises of the final day of the school-year were very fully attended by the patrons of the school and others; and no one competent to discriminate could fail to discover clear evidences of superior teaching. Mrs. Means's services are still retained.

Miss Alice F. Whitcomb of Newton Highlands was selected from a large list of applicants to succeed Miss Stearns in the charge of the first and second classes, and began her work at the commencement of the September (1879) term. Miss Whitcomb's record as a teacher is, without exception, most excellent. If she does not succeed here, she has lost her cunning, and the committee in charge of this school will have made a mistake.

Miss Alice M. Hammond of Wakefield, Mass., suc-

ceeded Miss Richardson in the charge of the third and fourth classes. This lady's history as a teacher shows constant success. She has evidently commenced the new school-year in the Hyde School as mistress of the situation. It is hoped she will prove to be the right teacher and person in the right place.

The number of pupils attending the Mason School, but geographically belonging to the Hyde School, is twenty-one. This arrangement was made as a matter of economy. It was found, by conference with the principal of the Mason School and with the superintendent, that to send these twenty-one pupils to the Mason School would not increase the necessary teaching force in that group of schools; whereas, to retain them at the Hyde School would compel the fitting-up of an additional room and the employment of an additional teacher. It is not improbable, that, by the beginning of the September term, 1880, there will be sufficient material to justify establishing a school here for the seventh and eighth classes.

CHARLES E. ABBOTT.

AUBURNDALE AND LOWER-FALLS DISTRICT.

HAMILTON SCHOOL.

THE Hamilton School sustained itself fully as well as could have been expected under the disadvantages of the several changes of teachers that fell to its lot during the year. In the retirement of Mrs. Ellen M. Leland, who had been connected with this school for nine years, and most of that time as head assistant, the city of Newton lost one of its most valued and successful teachers. Miss Anna G. Swain was consequently advanced to the position of head assistant; while Miss Bancroft filled the vacancy thus caused for the remainder of the year. Upon the resignation of Miss Kimball, Miss Sarah H. Jumper was made teacher in the primary department.

An excellent class of ten pupils was promoted, entire, to the High School.

The present organization of the Hamilton School, securing the tried and undivided services of Mr. Leland as head master, Miss Swain as head assistant, and Miss Jumper for the younger classes, is regarded as a satisfactory and promising arrangement.

W. S. SMITH.

WILLIAMS SCHOOL.

Of the Williams, it is pleasant to observe that it is one of those Newton schools which our honored superintendent takes particular satisfaction in introducing to the notice of those who are supposed best to appreciate a good school when they see it. Such a tribute as this should be most gratifying and encouraging to those teachers whose faithful and successful work commands such a recognition.

A superior class of fourteen members has been advanced to the High School, this year, without an individual failure.

The nine large classes in this school are getting to be about all the building can accommodate, as well as about as much as five efficient teachers can well care for.

The only change of teachers to be noticed is that involved by the additional masterhips in the city schools. Mr. George L. Chandler, one of the three men chosen from the large number of candidates presenting themselves, has been made head master of the Williams School; while Mr. L. E. Leland, agreeably to his own preference, has returned to the mastership of his former charge in the Hamilton School.

W. S. SMITH.

WEST-NEWTON DISTRICT.

PEIRCE, DAVIS, AND FRANKLIN SCHOOLS.

THE classes in these schools, with one or two exceptions, accomplished the year's work allotted them in an exceptionally satisfactory manner. The primary classes have done more than the usual amount of work, the result of which we may reasonably expect will be more apparent in the classes to which they have been advanced. The uniform good work of the lower grammar-classes was shown in their test-record, which, with very few exceptions, entitled them to promotion ; while the same record, together with the exhibition exercises of the ninth, or graduating class, showed a familiarity with, and thoroughness in, the work covered by the primary and grammar courses, gained only under the direction of experienced and skilful teachers.

We have not been exempt from the difficulty, ever attending graded schools, of making promotions at the close of the year, so as to equalize, as far as possible, the number of scholars in the different classes, and maintain the standard of promotion, and still do no injustice in individual cases, where, owing to circumstances beyond the control of scholar or teacher, there has been a failure to attain the requisite rank for promotion.

In the practical operation of our present system of promotion, the Committee have no direct control ; but, with our present high standard for advancement, no more delicate or difficult duty devolves upon the superintendent than the preparation of the test-work for the various classes.

To prepare this work in plain, direct words within the comprehension of the ordinary pupil, covering, as far as possible, the ground gone over with questions that shall gain the information desired, and at the same time serve as a spur to the pupil and an encouragement to the teacher, is a work of more than ordinary difficulty, and requires perfect familiarity with the work done ; but upon the thorough and careful preparation of the test-work, and the honest and earnest co-operation of the teachers in its execution, the success of the system must depend.

We were fortunate in being able to retain our entire corps of teachers, with the exception of one whom we were obliged to dismiss on account of the change by which the master takes charge in the room formerly occupied by the head assistant. The schools commence the present year under more than usually favorable circumstances.

E. W. WOOD,
Chairman District Committee.

NEWTONVILLE DISTRICT.

THE ADAMS SCHOOL.

DURING the past year the pupils of the upper classes of the Adams School have been in charge of Mr. Levi F. Warren as master, and Miss Jennie M. Morehouse as head assistant, and have generally made satisfactory progress. A larger number of the ninth class than was hoped (seven) fell below the average of attainment required by the rules of the Board for promotion to the High School, and are temporarily on probation for admittance. It is believed, with an accomplished and resident master (now provided), better results will be surely reached in the future. The appointment of Mr. W. F. Spinney, late principal of the Nantucket High School, as master of the Adams School, made it necessary to transfer one of the teachers of the Adams School to the primary class in the Jackson School, lately in charge of Miss Jeannette A. Grant; and Miss A. J. Warner, lately in charge of the eighth class in the Adams School, was so transferred. The other teachers in the Adams School deserve commendation for diligence and skill in the instruction of their respective classes.

THE JACKSON SCHOOL.

The appointment of Mr. George B. Edwards as principal of the Jackson School has proved a wise step, and the results have been highly satisfactory. A marked change for the better in the deportment and application of the pupils is apparent; and it is confidently believed that as this is one of the largest, so it will soon become one of the best, schools in the city. Miss Jeannette A. Grant, who for many years has done admirable service as teacher of the primary class, resigned her position at the close of the last school-year, much to the regret of all associated with her, and is succeeded in her class by Miss A. J. Warner from the Adams School. In consequence of the new arrangement with regard to masters in the district, it was found possible to dispense with the services of one of the assistant teachers of the Jackson School; and Miss Ellen F. Dalrymple, who has rendered good service for several years past, was not re-elected to her former position. The other assistant teachers of the school have labored with diligence and good success, and begin the present school-year under more favorable conditions than heretofore, and the best results are anticipated.

THE CLAFLIN SCHOOL.

The teachers of the Claflin School remain as heretofore, and have all been diligent, and successful to a good degree, in their work. The attendance of pupils — owing to bad weather, and an unusual amount of sickness during the year — has not averaged as high as formerly, and the deficiency was most noticeable in the primary classes. Their attainments in reading, writ-

ing, language, singing, and drawing, have been very satisfactory, in arithmetic and geography less so, with a marked deficiency in spelling. It is believed, from visits to many other schools of the city, and repeated trials, that the deficiency named is not confined to the Claflin School, but prevails very generally, and that a large majority of the pupils in classes below the eighth fail to spell correctly many words in ordinary use. It cannot be too often repeated that reading, spelling, writing, arithmetic, geography, and grammar are the essentials of a common-school education, and that other studies should be omitted, or made secondary, until proficiency in these is assured.

Many citizens residing in the Newtonville District think they have grievances which it would seem only necessary to state to secure redress ; but their long continuance, notwithstanding repeated protests and efforts against them, indicates a chronic stage, and affords warrant for noticing them in this report. They are, —

First, That children of the fifth and sixth classes, residing in the neighborhood of the Adams School, and beyond, to the Waltham Line, — all of tender years and experience, — should be compelled in all weather, and exposed to many dangers of health and limb, to go, some of them a mile, and most of them a half a mile, out of their way, to the Claflin School for instruction.

Second, That children of the eighth and ninth classes, residing near the Claflin School, and beyond, as far south as Bullough's Pond, should be compelled to go equal distances, with similar exposures to danger of health and limb, to the Adams School for instruction.

These grievances are needless, because there are pupils enough in each section of the district — making the railroad the dividing-line — for classes of all grades in each school; and the school-buildings and grounds in each case are suitable and ample for their accommodation. They are also injurious to the district and to the city, as many cases of withdrawal of children from these schools, and even of removal of families to other places, in consequence of these grievous exactions, could be cited, if necessary.

Grievance third, That in the northern half of the district, with but two hundred and ten dwelling-houses, and a much smaller valuation and tax-payment, there should be stationed two male teachers (high priced, and competent to teach the highest classes in the district), one head assistant equally accomplished and competent, and six assistant teachers; whilst in the southern half, with two hundred and sixty-seven dwelling-houses, and a much higher valuation and tax-payment, four female teachers only, of the lower grades, should be provided, and thought sufficient.

Fourth, That the other principal centres of population and wealth in the city should be provided with classes and teachers of all grades, including the eighth and ninth, in buildings and rooms accessible and convenient, whilst Newtonville, equal, if not superior in population and taxable property, to most of such centres, is deprived of the privilege and benefit of having its older pupils educated near their homes, free from needless exposure and danger, and under a master who shall reside among them, and be interested in them and in the families to which they belong.

It is sincerely hoped that these grievances, which have continued much too long, and are not fancied, but real, and hard to be borne, may be redressed at an early day.

H. S. NOYES,
Chairman District Committee.

NEWTON DISTRICT.

As to the schools in the Newton District, the Committee of that district have nothing of special interest to report.

They feel generally well satisfied with the work of the past year, and hopeful of greater good the coming year under the new arrangement, by which the master is able to give so much more time to the work of teaching. They can see in the primary schools a marked improvement and interest both on the part of teachers and pupils.

In reading, especially, there has been a decided gain. They would recommend that some steps be taken in this grade of school to teach in an easy, familiar way *botany*, and some elementary lessons in *natural history*.

They think the influence of the superintendent in this grade has been especially valuable and important, as it should be, as here the groundwork has to be done, the foundation laid. How necessary that it should be well done!

In the Bigelow School, Miss Prince's retirement is the only change. They regretted her loss, and congratulate her on her promotion to a position in the Bridgewater Normal School. The examinations at the close of the year gave entire satisfaction.

As to the course of study, your Committee think it would be wise to have the ninth-class work extended over two years, and enlarged so that those who do not want to, or cannot, go to the High School, can have a more thorough drill in English, including in this history and reading, and have some instruction in book-keeping.

This might require a modification of the High-school course ; but they think that to the grammar-school the mercantile course of the High School, so called, more properly belongs.

All the studies of that course, with the exception of French and German, could, with advantage, be required in the grammar-schools.

With these suggestions your Committee submit their report.

LINCOLN R. STONE,
For the District Committee.

DRAWING.

THE Committee on Drawing have the honor herewith to submit their annual report.

This department continues under the efficient charge of Mrs. Emma F. Bowler, whose work during the past year has been confined mainly to the High School, although it was arranged and graded for the primary and grammar schools. Two examinations were given during the year, — one under the personal supervision of Mrs. Bowler, in the latter part of the month of February; another, a written one, in the latter part of the month of June. The work, on the whole, was found to be satisfactory. In some classes, however, there was evidence of improper teaching in design, the teacher not understanding the principles. The Committee recommend, as matter of great importance, that the primary schools be kept closely to the standard, to avoid a decline that cannot subsequently be remedied.

The time allotted to classes in the High School is little enough for the accomplishment of the work which ought to be done. The pupils, however, have manifested an interest in their work; and the result has been gratifying. The work has varied from year to year, according to the ability of the pupils; but the effect of the drill in the grammar-schools is now being felt, and more and better work is possible.

The programme for the fourth class during the year was as follows : —

Two books in linear perspective, with an original problem from each pupil.

Nearly one book in model-drawing.

Three ancient styles of historic ornament.

One applied design.

Some few examples of shade from copy.

The programme for the third class during the year was as follows : —

One book in angular perspective.

Model-drawing from solid in light and shade.

One applied design.

The programme for the first and second classes, which came together at the same hour, was as follows : —

Cast-drawing in light and shade, stump.

Botanical analysis.

Water-color from copy.

Original design.

A few pupils in architectural drawing.

The work for the coming year will be nearly the same as above in the third and fourth classes, but very much more in the first and second.

The following is a statement of the number of pupils in drawing : —

	For the year 1878-79.	For the year 1879-80.
Fourth Class	33	53
Third Class	27	27
First and Second Classes	12	24

The teachers' classes were held from October until May ; the whole number of teachers in attendance being

sixty-nine (69), and the number of diplomas awarded being twenty-seven (27).

The mornings of Saturday were given to instruction of a part of the teachers at the High-school building. For the convenience of teachers living in the districts not easy of access to Newtonville, instruction was given at Newton Centre, after school-hours, on other days. This plan did not work well. The teachers were often tired, the light was variable, and the results were not so satisfactory as would have been obtained under other and better conditions. The plan which promises the best results, and which, all things considered, seems the most practicable, is to request the attendance of all the teachers at the High-school building on the mornings of Saturday. If, as hereinafter referred to, an advanced class shall be formed of such teachers as have completed the required course, and received a diploma, the Committee recommend that instruction be given on alternate Saturday mornings to teachers pursuing the regular course. If, however, there should not be a sufficient number of pupils to justify the formation of an advanced class, it is recommended that the teachers meet once a week in order that the work may be done quickly and more effectively.

The advanced course of instruction to which reference has just been made is that provided for in the accompanying circulars, marked "Exhibit B," from the Massachusetts Normal Art School and the State Director of Art Education.¹ From these circulars it will be seen that an evening school has been organized for the purpose of qualifying the regular teachers of public schools, and others desirous of becoming so, to give instruction

¹ These are omitted as too long for publication in this report.

in drawing in the several grades of day schools. Upon passing the required examination, such persons shall become entitled to certificates in the three grades,—primary and intermediate, grammar, high and normal schools. Arrangements have been made by which the teachers of the Newton schools can take this course of instruction with Mrs. Bowler, and receive the certificate referred to ; but no work, in addition to that which has hitherto been required of our teachers, will be necessary to entitle them to the diploma given by the city of Newton.

All of which is respectfully submitted.

THOMAS S. SAMSON,
J. Q. HENRY,
H. S. NOYES,

Committee on Drawing.

INDUSTRIAL DRAWING.

THE Committee on Industrial Drawing beg leave to report as follows:—

It is a matter of deep regret that no more interest is manifested by the young men and young women of Newton in the matter of industrial drawing.

It would seem that the opportunity of gaining that which shall be a life-long source of pleasure and of profit, gratuitously furnished, would only need to be known to draw out in large numbers those for whose benefit it is designed. But for successive years instructors have been appointed, of acquired reputation, gentlemen employed in similar schools in the city of Boston, and all the necessary appliances furnished at the public expense. But, either because of other too pressing engagements, or because of a lack of interest in the matter itself, the classes have not had the attendance which their importance should entitle them to.

During the winter of 1877 and 1878 no classes were formed. It was hoped that for the winter of 1878 and 1879 the attendance would indicate an increased interest.

Col. A. Hun Berry was employed to take charge both of the mechanical and freehand drawing. In October, classes were formed at the High-school building, New-

tonville, and at the Mason School at Newton Centre. In January, Col. Berry, having been appointed by the governor adjutant-general of the State, resigned his position in Newton. Mr. Miller was recommended by Gen. Berry as his successor, and was employed by the Committee. Both these gentlemen were competent instructors. But the class at Newton Centre was largely made up of young pupils, members of the high and grammar schools. The class at Newtonville had a larger proportion of adults; but in neither case could the results be considered fairly commensurate with the expenditure made.

Your Committee are forced to the conclusion that there is not at present sufficient interest felt in the matter to justify the formation of classes in industrial drawing, and, until there shall be a more manifest demand for it, would recommend that no more money shall be expended in that direction than the laws of the State require.

Respectfully submitted.

JAMES S. NEWELL, *Chairman.*

REPORT ON MUSIC.

THE Committee on Music, in their report a year ago, directed attention to the action of the School Committee, by which a special instructor in this department was discontinued. Yielding to the pressure of the call for retrenchment, the Board, after a long and earnest discussion, finally voted to give over the music into the charge of the regular teachers, and thus save this one item of expense to the city treasury. But the experiment has proved a costly one. Though we require of all our teachers an ability to instruct in music, and though effort was not spared by your Committee, aided by masters and teachers, to keep up the department, it was evident, even after a short trial, that the music was declining. Your Committee were therefore compelled, a year ago, to report that "the expectation that the teachers would care for the music in their respective rooms, and not allow the department to run down on their hands," had not been realized, and that the necessity for a special teacher had been demonstrated. The present year's experience has only strengthened this conviction. We gladly recognize the efficient service of a portion of the teachers, whose special culture, or exceptional gifts of nature, have come to their aid; but it has been made evident that the

majority of them are not up to the demand we have made upon them. The ability to teach well in any department is a gift, notably so in music; and nature has not imparted to all those even who have proved themselves most competent and efficient workers in other departments, the musical sense in such degree as to make them successful instructors in this. It is the concurring testimony of the superintendent, and of the masters and teachers, that we are falling below the standard we have heretofore maintained; and it is the judgment of them all, and of your Committee, that, if our past enviable position is to be regained and held, a special instructor is the imperative need of the schools. In this judgment, moreover, we think the citizens of Newton will coincide. If music is to be taught at all in our schools, it would seem to be only the dictate of common prudence that it should be so taught as to justify the money outlay. The business-world has long since recognized the principle, that it is wiser to expend a dollar and get a return of one and a half, than to pay ninety cents and get back only seventy-five. Either let us abandon altogether this department as a branch of public education, or so teach it as to warrant the expense. This Board have shown their readiness to do the latter, and voted, a year ago, — in response to a numerously-signed petition asking it, — to retrace their steps, and recall the special instructor to his work. But the pecuniary means needed to do it were refused by the Common Council, and the project failed. In this action we do not believe they would be sustained by their constituents. The intelligent interest in music throughout all this region, — which is largely due to our public-school instruction, — the love for it as a

means of refinement and a perennial source of pleasure, the pride justly felt in the world-wide reputation of our community for musical culture, all forbid that we should sacrifice to a supposed economy this branch of our public-school instruction. The experience, moreover, of other cities and towns who have made the same experiment with us, and with the same disastrous results, but who, unlike us, have reversed their action, and returned to special instruction, is an added argument in the same direction.

In behalf of the Committee.

AMOS E. LAWRENCE, *Chairman.*

EVENING SCHOOLS.

THE Committee on Evening Schools report that they re-opened the evening school for men and boys in the Lincoln building, Ward 1, on the evening of Oct. 14, 1878. The school continued until Feb. 21, 1879, three nights each week, except at Christmas-time, making forty-six nights in all. The number of pupils enrolled was seventy. The nationality was: Irish, 40; Americans, 25; French, 1; Canadian, 1; Unknown, 3; Total, 70.

The average attendance was fifteen each night; but the variation was from five to forty-four.

For a part of the time there were three teachers employed, and, as the attendance demanded it, one or two others were engaged for short periods.

The instruction given ranged from teaching the alphabet to lessons in book-keeping.

GEO. W. SHINN, *Chairman*.
LINCOLN R. STONE.

SUPERINTENDENT'S REPORT.

TO HIS HONOR THE MAYOR AND THE SCHOOL COMMITTEE OF NEWTON.

Gentlemen.—The report of the superintendent of the public schools of Newton, for the year ending Sept. 1, 1879, is herewith respectfully submitted:—

SUMMARY OF STATEMENTS FOR THE SCHOOL-YEAR ENDING JUNE 30, 1879.

I. — POPULATION.

Population of the city, State census, 1875	16,105
Number of persons in the city between five and fifteen years of age May 1, 1879	3,028
Number of persons in the city between five and fifteen years of age May 1, 1878	2,846
Increase for the year	182

II. — SCHOOLS.

Districts supervised by principals	4
Districts supervised by committees	6
High School, — both sexes	1
Grammar-schools, — both sexes	2
Grammar and primary	11
Primary	3
Whole number day schools	17
Number of evening schools	1
Number of evening drawing-schools	2

III. — SCHOOLHOUSES.

Number of schoolhouses for High School	1
Seats	300

Schoolhouses for grammar and primary grades	17
Sittings	3,376

IV. — TEACHERS.

Number of teachers in High School	8
(Male, 4 ; female, 3.)	
Number of teachers in grammar grades	29
(Male, 4 ; female, 25.)	
Number of teachers in primary grades	50
(Male, 0 ; female, 50.)	
Number of teachers having primary and grammar grades,	10
Whole number of teachers in day schools	77
Whole number of teachers in evening schools	5
Special teachers	3
(Calisthenics, 1 ; drawing, 1 ; military, 1.)	
Whole number of teachers	85

V. — PUPILS.

Number of different pupils enrolled 1879	3,397
Number of different pupils enrolled 1878	3,359
Increase	38
Average number of pupils belonging for the year	2,791.7
Average number of pupils belonging for the year 1878	2,740
Increase	51.7
Average daily attendance (day schools)	2,540.9
Average daily attendance 1878	2,527
Increase	13.9
Average daily absence (day schools)	250.8
Average per cent attendance	91
Average number belonging to High School	253.2
Average daily attendance at High School	232.7
Per cent of attendance at High School	94
Day schools—Tuition	\$60,601 75
Incidentals	9,380 29
Total cost	\$69,982 04

Amount appropriated by city council :—

Salaries and officers, janitor, and fuel . . .	\$70,769 71
Dog-tax	1,014 30
Incidentals	9,116 21
Unexpended balance	000 00
Total	<u>\$80,900 22</u>

Total appropriations city expenses . . . \$367,850 00

Per cent appropriated for schools 1878219

Per cent appropriated for schools 1879219

Valuation of city May, 1878 :—

Real \$17,456,655 00

Personal 6,333,697 00

\$23,787,352 00

Per cent valuation expended for schools00345

Total expenditures for schools \$82,260 08

Expense per capita whole number pupils enrolled . . \$24 22

[For further details see secretary's report.]

PROMOTION.

GRAMMAR AND PRIMARY GRADES.

Per cent of Pupils in each Grade.

DATE.	GRADES.									Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
September, 1873 . .	19.8	12.5	12.1	15.6	12.8	11.1	6.5	5.5	4	100
September, 1876 . .	14.6	14.7	12.9	16.1	10.8	9.7	10	6.3	4.9	100
September, 1877 . .	15.9	12.1	13.6	14	14.8	8.5	8	7.5	4.7	100
September, 1878 . .	16.2	13.1	11.5	12.8	14.8	11.3	7.3	7.1	5.9	100
September, 1879 . .	16.1	13.6	13.4	11.1	12.8	11	10.1	6	5.9	100

Number in each Grade.

DATE.	GRADES.									Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
September, 1873 . .	498	316	304	390	323	280	163	137	101	2,512
September, 1876 . .	380	383	338	420	282	252	261	165	129	2,610
September, 1877 . .	424	321	361	398	394	225	214	190	126	2,662
September, 1878 . .	428	347	306	341	392	300	194	190	157	2,655
September, 1879 . .	431	365	359	298	344	294	271	159	157	2,678

Number in each Grade by Districts, September, 1878-79.

DISTRICTS.	GRADES.									Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
Newton, 1877	67	53	54	85	74	48	44	38	18	481
“ 1878	59	66	49	56	87	49	48	53	28	495
“ 1879	66	71	69	44	71	56	63	28	45	513
Newtonville, 1877 . .	111	81	85	84	81	34	61	41	19	597
“ 1878 . .	88	93	69	74	87	51	36	42	39	579
“ 1879 . .	80	90	99	60	71	67	40	32	40	579
West Newton, 1877 . .	71	51	75	60	86	43	32	36	29	483
“ 1878 . .	84	50	57	63	65	80	27	27	29	482
“ 1879 . .	82	58	48	49	77	40	66	31	18	469
Newton Centre, 1877 .	127	104	110	123	101	61	56	50	29	761
“ 1878 . .	134	104	104	113	105	80	56	46	32	774
“ 1879 . .	160	101	103	106	96	88	67	41	36	798
L. Falls, Aub'dale, '77,	48	32	37	46	52	39	21	34	31	340
“ “ '78,	63	34	27	35	48	40	27	22	29	325
“ “ '79,	43	45	40	39	29	43	35	27	18	319
Totals, 1877	424	321	361	398	394	225	214	199	126	2,662
“ 1878	428	347	306	341	392	300	194	190	157	2,655
“ 1879	431	365	359	298	344	294	271	159	157	2,678

Per cent by Districts, September, 1878-79.

DISTRICTS.	GRADES.									Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
Newton, 1877	13.9	11	11.2	17.7	15.4	10	9.1	7.9	3.8	100
“ 1878	11.9	13.3	9.9	11.3	17.6	9.9	9.7	10.7	5.7	100
“ 1879	13	13.9	13.4	8.6	13.9	10.9	12.4	5.5	8.4	100
Newtonville, 1877 . .	18.8	13.5	14.2	14.1	13.5	5.7	10.2	6.9	3.2	100
“ 1878 . .	15.2	16	11.9	12.8	15	8.8	6.3	7.3	6.7	100
“ 1879 . .	13.7	15.5	17.1	10.4	12.4	11.6	6.9	5.5	6.9	100
West Newton, 1877 . .	14.7	10.6	15.5	12.4	17.8	8.9	6.6	7.5	6	100
“ 1878 . .	17.4	10.4	11.8	13.1	13.5	16.6	5.6	5.6	6	100
“ 1879 . .	17.5	12.4	10.2	10.4	16.4	8.5	14.1	6.6	3.9	100
Newton Centre, 1877 .	16.7	13.7	14.5	16.2	13.2	8	7.3	6.6	3.8	100
“ 1878 . .	17.3	13.4	13.4	14.6	13.5	10.4	7.2	6	4.2	100
“ 1879 . .	20.1	12.7	12.9	13.3	12.0	11.0	8.4	5.1	4.5	100
L. Falls, Aub'dale, '77,	14.1	9.4	10.9	13.5	15.8	11.5	6.2	10	8.1	100
“ “ '78,	19.4	10.5	8.2	10.8	14.8	12.3	8.3	6.8	8.9	100
“ “ '79,	13.5	14.1	12.5	12.2	9.1	13.5	11.0	8.5	5.6	100

[illegible]

ATTENDANCE.

The attendance—ninety-one per cent—is by itself the indication of interest on the part of the pupils in school-work, and also of the faithfulness of the teacher in maintaining a commendable interest therein. As compared with other places, Newton holds a high rank both as to the per cent of attendance of her school population and the per cent attendance of whole number enrolled.

Perhaps in no one matter is the interest of the teacher in school-work more manifest than in the vigilance shown in promptly looking up all cases of absentees. Though the repeated cases of absence without cause are few in number throughout the city, it is not forgotten that all such cases are the most deserving of attention; and pupils making such a record need more than others the influences of the school-room. The watchfulness of the teachers in this direction merits the highest commendation. Failure on the part of a teacher to inquire at once into the cause of absence is a failure of grave importance, not only to the pupil, but to the whole school.

SCHOOLHOUSES.

During vacation, the schoolhouses and grounds received all necessary repairs. And here it may not be amiss to state, that, next after good teaching, the school accommodations of Newton have contributed to the excellent results of her school system. With ample seating capacity, her schoolhouses are located at points of easy access, their number obviating the necessity of very large buildings with overgrown schools, and crowded rooms. While the buildings are generous in proportions for the number of pupils to be accommodated, the number of pupils to a school, as will be seen by reference to the table of attendance by classes, is not such as to require that strict semi-military discipline in and about the premises that is no less a restraint upon the pleasure and development of the pupil physically than it is wearisome and cramping to his mental and moral progress. In

brief, the size of the schools is admirably adapted to a free and full development of the pupils under a minimum of restriction upon all their activities. In this respect the city is most fortunate.

With pleasant schoolrooms and ample play-grounds, both tastefully ornamented, — and the former generously supplied with needful aids to illustrate and diversify the daily tasks, — and abundant material for work of teacher and pupil, results of a high order are only a just and reasonable expectation.

TEACHERS.

With excellent accommodations, and most liberal supplies of incidentals, to maintain the schools uninterruptedly at a high standard of excellence, great care must be exercised in the selection of teachers to fill the vacancies from sickness, resignation, or other cause. Until our normal schools grant their diplomas to those only who have distinguished themselves for aptness to teach, as well as for scholarship and good endeavor, we have no sure source of supply of good teachers to take the places of experienced teachers, causing vacancies.

With many names upon our list of applicants, it is no small difficulty to select with confidence one who will unquestionably prove a success in our schools. We have found but few among those assisting as apprentice-teachers who have shown first-rate ability to teach; and, so far as opportunity offered, they have been employed as regular teachers. The plan adopted by the Board, of allowing the graduates of the High School to serve as apprentices, would undoubtedly secure much excellent talent for the schools; but, to be a complete success, several considerations must receive the attention of the Board, among which are the following:—

1. The apprentices must have shown a good record at the High School.
2. Must be as constant and regular in their work as the regular teacher.
3. Must pursue a course of study or reading during the apprenticeship, prescribed by the superintendent.

4. They must meet as a class, and discuss matters pertaining to teaching and school-work, as often as the superintendent may require.

5. Others than graduates of the High School, when properly qualified, may be permitted to join the class.

6. Those who have served a reasonable time, and shown the required skill, shall have the preference with the Board in the election of teachers.

With a clear understanding of what is required, and the possible end to be attained, we have no doubt much talent, trained in the ways and methods of our schools, may be secured. But, to succeed in this, the responsibility of selecting teachers for any given class ought to be definitely fixed, and the failure of a teacher to perform the work assigned should be reported from the same source.

The method of filling vacancies as they occur, either temporarily or permanently, deserves the early attention of the Board. Frequent embarrassment has arisen in attempting to fill vacancies requiring immediate action. An examination of candidates, or their credentials, at stated times, — say once or twice during the year, — would relieve the question of much of its present difficulty.

TEACHERS' MEETING.

Teachers' meetings have been held, as required by the Rules and Regulations. Much good results from the occasional interchange of views upon the work of the several grades. And the full attendance upon the grade-meetings indicates a clear purpose, on the part of the teachers, to maintain a high professional rank. Teachers who cannot find time to attend these cannot generally find time to improve their methods. The interest usually manifested at these meetings, as to the work to be done, and the methods of doing it, fully justifies the wisdom of the regulation establishing them. During the past year they have by no means fallen off in interest or profit, or in attendance. Absences therefrom have generally been promptly and satisfactorily explained.

INSTRUCTION. — PROMOTION.

While following the course of study adopted by the Board as to the prescribed stages of promotion, it has been found necessary, in exceptional cases, to allow a certain degree of elasticity to promote the best interests of the pupils and the school. To remove all cause for misunderstanding as to the matter of promotion, a few words upon the policy advised by the superintendent in the matter of instruction of the individual classes may not be amiss. The frequently well-founded complaint against the graded system, that there is danger of magnifying the school at the expense of the pupil, when the number of pupils in attendance will not warrant separate classes for each grade, cannot be made against the schools of Newton. It has been the aim of the superintendent to strengthen the opinion, among teachers of every grade, that the necessity of two classes or grades in one room to a single teacher is a positive advantage rather than a disadvantage. This opinion is entertained by many of our ablest educators, and, we believe, is now held by almost all of our teachers. A very small number only, who have not time to do the work of a single grade, and never will have time, without change of methods, to attain their ideal results, hold to the contrary opinion.

Again: the most skilful teachers, with but one grade of forty or fifty pupils, do not attempt to treat them as a single pupil, all studying or attending to the same point at the same time. It is clear, that, by such a course, one-half of the time must be lost to the pupil, and therefore the class is made into, at least, four sections: while one section recites, the remaining three study, thus doubling the time for recitation and study both. Such a division gives room for extra work to the more mature, and the needed assistance to the more backward.

Active, competent teachers, who are always prepared to conduct their recitations independently of the text-book, can render all required help to their pupils while a portion are

reciting, can see that they are not wasting their time, and judiciously aid them in their work at the proper moment. As a rule, work that is not done at the proper time is never done. The proper time for school-work is from nine to twelve and from two to four; and to learn to do their work at the proper time, to be prompt in attendance at school, and to prepare the task assigned in the hour given to it, is really to influence the life of the pupil more than any thing else to be learned at school, perhaps more than all else. To allow a pupil to remain idle habitually in school, and expect to reform him to good work by aiding him out of school-hours, is to defeat an important end of school-life,—the formation of habits of industry and punctuality. When the teacher substitutes the assigning of lessons and the hearing of them for the higher duties of inspiring a love for learning by all the ways that skill and tact always readily devise, and the stimulating of each pupil to a healthful activity, it takes but a short time for the very genius of dulness to gain full possession of the class, while all thought and effort of memory become wearisome, difficult, and impossible. Neither the teacher nor the class can do the pupil's work: he must do it for himself; and while it is true that he *must* do it, the methods by which he is compelled to it distinguish clearly the power and rank of the teacher. No pupil is at his best, working under fear,—whether from fear of punishment, or loss of rank. The highest results are obtained when the pupil's conscious progress is the sufficient stimulus to greater exertion. To desire to learn something is the child's normal condition; to succeed gives him pleasure, and encourages effort. To so apportion the work and agreeably diversify it as to quicken the pupil's interest therein tests the skill of the teacher. The pupil will not fail to share the enthusiasm of the teacher; and on this account the skilful teacher makes the school, irrespective of per cents, methods, and courses of study. A genuine love for the work will always find a way of doing it; if not by one of the many already known, it will invent one of its own.

Occasionally an inexperienced or wearied teacher thinks this or that cannot be done, there is not time. Let us see. In our modern public-school system, the child enters at the average age of six years. If he leaves the grammar-school at fifteen, nearly one-quarter of his life is gone in school and vacation; if he leaves the high school at nineteen, and college at twenty-three, one-third of his life is gone; and ought he not at each of these stages to have accomplished much to prepare him well for the next half or third, which will be the limited amount he can give to greatest activity? For during school-life his studies are supposed to task him so severely, that his vacations must be given to recreation; and he is in no little danger of passing the golden period of his life without acquiring habits of voluntary industry, or becoming conscious of the countless possibilities within the scope of his own powers. Time is not wanting to accomplish all and more than the course of study demands; only a better knowledge of how to use it is occasionally needed.

We have said thus much to meet the criticism, sometimes made by others besides teachers, that the school-work is over-crowded. If reading, writing, and arithmetic, the essentials of a good education, were alone required, then our course should be reduced three years at least, if not more; for six years' continuous effort upon these ought to suffice for the average pupil. But it is found that quite a percentage of pupils gain a year or more in the course; and many of our teachers think more and different work could be done with greater interest and profit to the pupil. So that we are forced to the conclusion, that it is not the amount of work that troubles teacher or pupil, but the kind and method of it. Fulness of knowledge upon all related topics will enable the teacher to awaken and keep alive the pupil's interest in the narrow work of the curriculum. The instruction in the several grades during the past year, as shown by the written and oral examinations, has been highly satisfactory; and the success attained by several grades is shown by the tables annexed.

THE PRIMARY GRADES.

Very marked improvement has been made in the primary grades in reading, writing, and number. Lack of faith in the results possible to be reached by an earnest, wise handling of the little ones, and *supposed lack of time* to try better methods, have caused the exceptions. As the teacher cannot learn for the pupil, and his powers, physical and mental, are only beginning their development, the natural limits of the work of these grades are more easily discovered. And right here we think the first grave and important errors may be made in the child's education. And as these errors are fundamental, and vital to the successful working of any system of education, we have thought best to explain with some definiteness, at risk of the charge of theorizing, one or more of the principles we have endeavored to establish upon the much confused, at the present time, question of primary education.

While believing most fully many things in educational methods that have in fact had the sanction of the wisest educators for all time, but more definitely and widely since the time of Bacon, we at the same time wish to take exception to some of the assumptions apparently supposed to underlie the philosophy of some of the methods in question. These are of the highest importance to any theory of education, since the whole superstructure must depend for its symmetry and permanency, in a large degree, upon the spirit and methods laying the foundations thereof.

The most damaging of these assumptions is the fundamental one, in some of our normal instruction, that the child at five years of age knows nothing of number; and thereupon is built what may properly be termed the "idiot theory" of education, that is, the assumed idiocy of the child.

The enthusiast of this theory holds up three fingers to the child, and in answer to his question, "How many?" the child says, two, or four, as the case may be; and the answer is held to be proof that the child has no idea of number, and he is

forthwith doomed to a wearisome drill *to develop his ideas of number*, which is as insulting to his present knowledge and power as it is false in theory. There could not be, in our opinion, a clearer *non sequitur*, nor a more damaging one, extending its influence through nine long years of the pupil's life, to gain an incomplete mastery of the few principles underlying all arithmetical operations. As well might one say a mathematician failed in just conception of number, because at a glance he estimates a group at ten, which, upon counting, proves to be nine or eleven. We hold to exactly the opposite of this generally received opinion, and believe that the *first clear and complete conceptions of the child are of number*; that as soon as, by the aid of the geometrical faculty in differentiating form, the child is conscious of the existence of an object, even indistinctly, the idea of the existence of one thing is born, — one object, unity; and, as soon as it can positively distinguish its mother or nurse, not only is the idea of unity complete, but at the same time duality is realized, the rest of the world being one. As soon as it can recognize two persons or things, the idea of three is completed; these two, and all others as one, making three; and so on, the most definite ideas of the child being those of number. But he cannot express them readily in English or Arabic (the decimal system), or, for that matter, in Greek or Chinese, at the age of five years. Of course, special reference is had to ideas gained through the sense of sight, though it is difficult for one to imagine any ideas previously gained through other senses to be more clear and distinct in any other respect than in relation to the simple existence of objects or units.

The child's failure is not in the ability to imagine numbers of simple units, but in the proper use of the language commonly applied to the expression of it, — the simplest form of which is the decimal system, — that he is to learn by counting objects, until made familiar with its simpler units, tens, hundreds, and thousands. When he has learned the decimal system in the representation of numbers, to attempt to treat

exhaustively the higher units with their fractional parts, so that when three hundred, for example, is named, the child will think of the number of its simple units, instead of only three units of a large number, is to abuse the child's imagination, and defeat the very end to be served by learning the decimal system. While the free use of objects greatly aids in teaching the significance of the characters used in the decimal system, and objects should always be used therefor, yet if carried to excess, as it is liable to be under the "idiot theory," it will surely end in confusing the child's mind as to the object of the drill, and thoroughly disgust him with the whole subject of computation, affecting his whole subsequent progress in mathematical studies. The average child should seldom be troubled with objects after the first year in his arithmetical operations, except for occasional reviews of the decimal system, and illustrations of fractional terms. After he has learned the simple operations upon numbers, he is again to learn in denominate numbers modifications of the decimal system by the aid of objects, which will abundantly aid his imagination and judgment.

Next after this false assumption as to the child's ideas of number, and more damaging in its influence upon the pupil's successful introduction to school-life, comes that which must necessarily underlie the much abused object-method of teaching, as illustrated by those of whom it seems to have taken exclusive possession, under the impression that material objects are the only legitimate objects of thought for the child. With them it would seem the assumption is made that the *child has neither memory nor imagination*; whereas we would formulate the opposite opinion, that the child has both in a wonderfully free and untrammelled condition, ready, without effort on its part, to serve the child in whatever interests it. No one can argue against true object-teaching; and we only now refer to it to criticise certain misapprehensions as to its use, and to object to the absurd restrictions and limitations into which a misconception of its true scope is wont to lead the inexperienced in their work.

It best suits our purpose to illustrate its abuse in the very first steps taken by the child to learn to read. The child, for example, is to be taught the sentence, "*I see a cat.*" There could be nothing more unphilosophical than to exhibit a *cat*, one or more, or to ask Johnny to describe his *cat*, and Jane to tell the color of hers, its name, &c., or to direct the attention of the pupil or class to the picture of a *cat*; all which talk and picture would serve only to divide the pupil's interest, and so weaken his power to attend to the real purpose in view. The real and only objects to which his attention should be directed are the *words*, "*I see a cat,*" with sufficiently minute attention to each letter and its sound, to enable the child to recognize the word when reproduced, and with sufficient repetition to enable him to recall the forms on hearing the sounds. The simplest principles of philosophy require this. Hence it is much better to teach the child to read from the board or printed slips than from picture-books. All attempts to explain the ideas and thought are out of place, and confusing. There is no idea in the words, "*I see a cat,*" that the child does not perfectly realize; and the thought of the sentence is as clear to him as to any one. He knows what it means as well as he ever will; and to undertake to explain to him the idea of *seeing*, *I*, and *cat*, which he so well knows, is not only to insult his intelligence, but hinders his progress by absurdly diverting his attention from the proper objects of his thoughts, — the characters that stand for his oral expression "*I see a cat.*"

The fundamental principle in object-teaching is never to use the sign of the object when the object itself can be presented; for attention to the sign distracts the child's attention from the thing signified. And in learning to read, for the child, the words are the objects to be taught: the objects for which they stand, in this case, become the signs of the words.

Picture-reading is so easy and pleasant to old and young, that many excellent artists are constantly employed upon this most impressive and most rapid method of telling a

story. The pictures of childhood remain ineffaceable through age, when the words can seldom be recalled. The office of the picture is to teach some lesson: it should not distract the child's attention from the words to be learned. The word itself, if the idea it conveys is familiar to him (as it ought always to be in the first steps of learning to read), is *the picture* we wish to impress most deeply upon his mind. But, in the examination of results obtained by any method, it is not to be forgotten that an enthusiastic teacher with an unphilosophical method will produce far better results, on the surface, at least, than an indifferent teacher with philosophic method.

All explanations of the idea and thought are foreign to the work and a hindrance, because, in learning the written language, the words should be taken from the child's vocabulary, and sentences given him of which he perfectly grasps the thought, and realizes the idea of every word. There cannot be too much talk at other times *by the pupil*, with the class and teacher, upon all subjects interesting him, to improve his use of language; but, in his direct attacks upon written language, any thing said beyond securing his attention to the words and sounds he is to learn disturbs and hinders him. The average child at school-age can readily understand all the thoughts usually found in first readers. It is well to print the sentences, as fast as learned, upon little slips of paper, cut it into triangles and rectangles, with a word upon each piece, and give it to the child to re-form, which will amuse him, and cultivate the geometrical faculty at the same time that it is true object-teaching of the very objects to be learned. He should also spell by sound, from the beginning, daily, all that he has learned, but *never* unless his eye is fixed upon the word so spelled. This cannot be too carefully attended to, if he is to learn to spell; since this practice, and writing all he reads and learns, are all the exercises in spelling he will need at first.

Having illustrated thus some of the methods pursued in most of our schools, we return to the more legitimate task

to speak of their condition. As we said before, the work done has been exceedingly satisfactory in the primary grades, giving evidence of most faithful efforts on the part of the teachers, and corresponding progress of the pupils under their instruction. In addition to the generous supply of books by the city, and a liberal assortment of other aids to primary instruction, one teacher invites her pupils to bring their own books, and read to her and the class from them, — a practice much to be commended to all grades, — thus not only adding an interesting variety to the exercise, but giving the teacher an excellent opportunity to learn the kind of reading interesting the pupil, and also to improve and guide his tastes therein. Another, in the second grade, besides making excellent progress in reading, writing, and number, taught her class two hundred lines or more of choice poetical selections, which they seemed always delighted to recite in concert or individually, — more as a pastime than as a task, for the simple reason that the heart of the teacher was in all of it. On visiting recently another teacher of the same grade, we found her with a small section of five pupils reading, and at the same time three other sections, in different parts of the room, reading each to little pupil-teachers of the advanced section of the room, who, by their wonderful zeal and tact, already gave proofs of superior teaching ability. Each pupil was reading a whole lesson or more, and doing it admirably and orderly, under the youthful tutor; and it would be difficult to say which received the greater benefit from the exercise, — the teacher, or the taught. All these teachers have time enough for the required work, and some to spare in making the children happy by all those little ways instinctively known only to those who love them. But we have not room to speak of all the excellent work done so faithfully by all the teachers of these grades. We refer to the above as illustrative specimens.

GRAMMAR-GRADES.

The work of the grammar-grades has been performed during the year with the usual fidelity and success. In two or

three cases only, temporary inconvenience was felt by necessary changes of teachers. But the final results, as shown by the written and oral tests, were of a satisfactory character. It is due to the earnest, efficient teachers of these grades to state that throughout the year a most gratifying and more marked individual effort was observed in all the work, a more secure feeling of independence in methods, and a certain personal responsibility for results obtained; all which are the surest signs of progress,—are, in fact, the results of a proper effort on the part of the teacher to realize his or her own ideal in school-work. The highest results can be obtained, we believe, only when the largest freedom of action is allowed under the rules, with the strictest individual responsibility.

While the examinations for promotion must have somewhat more or less of a technical character in all the grades, special effort has been made to have them show at the same time, as much as possible, the general training of the pupil, and his ability for independent thought. The papers of the ninth class gave evidence of careful drill in the required work, and excellent preparation for advanced study. Having frequently observed the methods of instruction, and the progress made during the year, it was with confident expectations of an excellent record that we certified to their qualifications for admission to the High School. The average age of the class, its marked ability, and its general excellence of character and deportment, will enable it, we feel assured, to sustain a high rank in the High School; thus reflecting proper credit upon the work done in the grammar-grades, and manifesting at the same time a more just appreciation of the opportunities here provided for a broader and more liberal culture.

It is not necessary to enumerate the long list of excellent methods adopted by different teachers to accomplish the required work of these grades. One illustration will suffice. We were particularly pleased with the enthusiasm of one class as shown by the ingenuity of some of its members in

extemporizing simple apparatus of their own construction to illustrate the elementary principles of physics,—one of the studies pursued by a section of the eighth grade, which also did the work of the ninth.

Such efforts of the pupil, however rudely constructed the pump, engine, or battery may be, are deserving of the highest commendation; for this is education of the best, most practical kind. In this as in other matters, as well as in the general tone and bearing of the pupil, there are the clear evidence of still higher attainments.

PENMANSHIP, DRAWING, AND MUSIC.

The examination-papers at the close of the year were remarkable for neatness of appearance, and general excellence of the penmanship. With few exceptions, they exhibited a great degree of uniformity in their preparation. It is confidently expected that still higher excellence will be obtained in this branch as the lower grades, having given greater attention to the exercise, advance to the higher. Both in penmanship and drawing it is evident the regular teacher may be able to give the necessary instruction in a perfectly satisfactory manner. As one need not be a mathematician before venturing to instruct in the principles of common arithmetic, so one need not wait to become an artist before attempting to teach the elementary steps in drawing. Though the results have been satisfactory in these branches, the most important fact concerning each is, that there are evidences that still better results will follow. In music, while the work has been all that might reasonably be expected, it is clearly evident that the regular teacher does not feel always the confidence in her own ability necessary to accomplish the best work. While much faithful work has been done by those who have musical taste and ability, and with satisfactory results, others have not been able to carry on the work with the same degree of success as with the aid and supervision of an able special instructor.

DISCIPLINE.

We are in great danger of ultimately abolishing the very charms of childhood by the absurd restraints we put upon its innocent freedom of action. We seem to be in too great haste to file and march it on all occasions into the measured step, grave demeanor, and dignified repose, that will so well become it when it has learned by practice the duties and responsibilities of the citizen-sovereign. For boys and girls who are not trained to some manual labor, gymnastics or other *regular* drill will not suffice. Healthful, out-of-door sports must be engaged in, that will give by their free exertion buoyancy of spirits, life, and activity to the physical and mental powers.

Inexpensive games and sports should not be allowed to die out, nor give place to organized clubs, so costly in preparation, and so wasteful of time and energy in settling disputed contests, or passing upon alleged violations of the laws of the game as established by the national association. Even the old-fashioned, hilarious, free-and-easy game of base-ball, formerly played for pure fun instead of profit, seems to have passed away; and it is painfully ludicrous to see a handful of boys fantastically arrayed, with ball of absurd density, preventing its free and fun-provoking use as of old, spend half of their time, that ought to be given to the exhilarating sport, in discussing the proprieties and rules of the game as played by paid professionals who have other objects in view beside winning the game in hand. Are we to have no childhood, no boyhood and girlhood, to witness the innocent pastimes of which keeps dulness from age, and perpetuates the charms of existence?

If we would have greater mental activity, the child must have greater physical freedom. Boys have a ready source of useful exercises always at hand at friendly trials of strength in all kinds of sports; not so with the girls: the proprieties, as well as the teacher's regulations, sadly interfere with their free enjoyment of youthful sports. Therefore it is no small

part of a teacher's duty, and highest privilege, if she would secure a ready and orderly compliance in learning their tasks, or a quiet, respectful listening to her instruction, to aid them in devising innocent games, and encourage them in all proper youthful sports.

But it is said, "We must watch them," "They must keep off the grass." Why must they keep off the grass? "Because they will mar the beauty of the plat;" and "is there any thing more beautiful than a well-kept grass-plat?" Most certainly there is; and it is a grass-plat or lawn with groups of joyous children (boys and girls) thereon, indulging with perfect freedom in all proper, innocent sports.

In riding through the city a benevolent philosopher would say, "What a thoughtful people! How happy childhood must be here! How fortunate children with such playgrounds, compared with those who live among mere piles of brick and mortar!" — the grass-plat, so beautiful to the sight, so soft to their little feet, so elastic a cushion for the little rough-and-tumble games so useful in developing their muscles and in quickening their mental as well as physical activity, so inviting in color and neatness. Why should they be told to keep off the grass-plat, when it seems so admirably contrived for their special needs?

This is one only of the unreasonable restraints we put upon childhood. To hamper the child with unnecessary and unreasonable restraints, clearly against his own judgment, is to make him eager to break through all restraints, whether reasonable or not, is to confuse his judgment as to the proper and improper, the right and the wrong. For these reasons, we have been gratified at every attempt we have witnessed to allow the largest possible freedom to pupils of every grade, consistent with an orderly, respectful deportment.

With proper oversight, and judicious management of the occasional abuse of such freedom, we believe the greatest possible success will be attained under it in training up the youth of our schools to become self-respecting, order-loving, law-abiding citizens.

HIGH SCHOOL.¹

The results of the principal's first quarterly examination of the fourth class of the High School, in the main, justifies the expectations of the superintendent, elsewhere expressed in this report. The age and ability of its members give promise of an excellent record throughout their course.

In the classical department of our high schools there is a fixed and definite course of study required of the pupil, the satisfactory accomplishment of which is an imperative necessity for successful advancement to the higher college course supposed to be in view. The same course is sometimes thought to be able to give a sufficient education to one who intends completing his studies with graduation at the High School. No greater mistake could possibly be made as to what constitutes a valuable practical education in accordance with the demands of the times.

The classical courses in their minimum requirements assume that a given amount of work must be done by the pupil to entitle him to a certain rank or position as a scholar among educated people.

A course of study based upon an assumption so venerable from the long series of years it has held an almost unquestioned sway over the public mind has by itself a marvellously inspiring influence upon the young pupil's mind.

That influence is clear and positive. He thinks these studies are indispensable; for the wise in such matters are all agreed upon their necessity: surely, then, these paths must lead directly to the fields of knowledge, and the moral effect of the confidence inspired by such definite requirement cannot be over-estimated. With pupils entering upon work the importance of which is thus emphasized, whatever may be its real ultimate value to their right education, there springs up naturally enough a certain *esprit de corps* that ordinarily carries on the class to sure victory. With the general or scientific course, the perfection of which should be the highest

¹ From December quarterly report.

aim in a system of public education, the case is entirely different. Not only do the schools themselves differ as to the number and extent of branches pursued, but occasionally the same school attempts to offer all possible combinations of such courses.

Such an attempt, seemingly based upon the assumption of the impossibility of agreement upon what is possible and necessary in a general course, is not only wasteful of the teaching force of the schools, but most disastrous in its influence upon the mind of the young pupil. The crowning glory of our public schools is the definite provision for the most liberal, most practical education for the average future citizen, not for specialists and professionals.

The general or scientific course so far transcends all other purposes of the public school, that its successful accomplishment should entitle the pupil to the highest school honors the city can confer.

To this end it should be definitely arranged according to the logical dependence of the branches pursued, and should admit of no doubt or option in the child's mind as to the importance of thorough mastery of the work assigned.

All pupils need not be required to complete such a course, sufficient cause excusing them therefrom; and such pupils could receive a diploma stating the exact ground passed over. But that such a course should be properly mapped out for them we think is beyond the shadow of a question.

Living in an age when the startling discoveries of every day not only open up new fields of investigation, but throw their illuminating rays far back upon the obscure past, it is the clear right of the pupil to be put in full accord with all the best methods and thoughts of his time. There is ample time for this, if he begins aright, and does not waste his energies upon fruitless tasks.

With the excellent art-room, philosophical and chemical laboratories, generously provided by the city, and the natural history cabinets (yet to be completed), the advantages of our High-school pupils for a superior practical education cannot easily be surpassed.

CONCLUSION.

In conclusion, the condition of the schools is such as to command the hearty support of this Board and the full sympathy of the citizens by whom and for whom they are sustained. Notwithstanding occasional errors and temporary failure of success as a body, the faithful teachers intrusted with the education of the youth of the city are entitled to your fullest confidence.

In order to increase their efficiency, to enable them to attain more nearly their own ideal standard of excellence, it only remains for me to ask that the same generous, liberal, honorable treatment, that has ever characterized all your relations with them, be continued.

E. HUNT, *Superintendent.*

Nov. 26, 1879.

SECRETARY'S REPORT.

STATISTICS.

NAMES OF TEACHERS.	Department.	Class.	Whole No. of Pupils during the Year.	Average Whole No.	Average Attendance.	No. of Pupils under 5.	No. of Pupils over 15.
<i>High School.</i>			282	253.2	232.7	-	249
Francis A. Waterhouse	Master.						
Ezra W. Sampson	Sub-Master.						
John F. Kent	Assistant.						
S. Warren Davis ¹	"						
S. Alice Worcester	"						
Carrie Spear	"						
M. Isabel Hanson	"						
M. Abby Smith	"						
Mattie E. Foote	"						
<i>Special Teachers.</i>							
Jennie E. Ireson	Calisthenics, Elocution.						
R. G. Carter	Milit. Drill.						
Mrs. Emma F. Bowler	Drawing.						
<i>District No. 1.</i>			916	744.5	688.8	8	45
Albert L. Harwood	Master.						
<i>Mason School.</i>							
Mary L. Searle	Head Assist.	8, 9					
Emma I. Henshaw	Assistant.	7					
Maria F. Wood	"	6					
Kate Taylor	"	5					
Hannah H. Taft	"	4					
Lottie P. Harbach	"	3					
Ellena H. Thompson	"	2					
Ellen M. Cook	"	1					
<i>Prospect School.</i>							
Martha L. Perkins	Head Assist.	8, 9					
Marion M. Miller	Assistant.	6, 7					
Ella F. Crooker	"	4, 5					
Helen Norwood	"	3, 4					
Lizzie W. Everett	"	2					
Mary P. Fanning	"	1					
<i>Hyde School.</i>							
Lilla M. Means	Principal.	5, 6					
Cevilla R. Richardson	Assistant.	3, 4					
Alotta E. Stearns	"	1, 2					
<i>Oak-Hill School.</i>							
Mary E. Minter	Principal.	1, 2, 4, 5, 7, 8					

¹ Substitute for Miss Hanson.

NAMES OF TEACHERS.	Department.	Class.	Whole No. of Pupils during the Year.	Average Whole No.	Average Attendance.	No. of Pupils under 5.	No. of Pupils over 15.
<i>Thompsonville School.</i>							
Helen A. Davis	Principal.	1, 2, 3					
<i>District No. 2.</i>			380	306.3	287	6	25
Luther E. Leland	Master.						
<i>Hamilton School.</i>							
Ellen M. Leland }	Head Assist.	6, 7, 9					
Anna G. Swain }		4, 5					
Carrie L. Kimball	Assistant.	1, 2, 3					
Sarah H. Jumper	"						
<i>Williams School.</i>							
Elizabeth A. Pinnock	Head Assist.	8, 9					
Phebe W. Bunker	Assistant.	6, 7					
Ella F. Brown	"	4, 5					
Susan E. Copeland	"	2, 3					
Ann B. Smith	"	1					
<i>District No. 3.</i>			930	770.2	705.6	3	55
Levi F. Warren	Master.						
<i>Peirce School.</i>							
Sarah A. Warren	Head Assist.	8, 9					
Mary J. Pickering	Assistant.	7, 8					
Eliza E. Simmons	"	6					
Elizabeth F. Paddock	"	5, 6					
<i>Davis School.</i>							
Ella G. Bates	Principal.	6					
Calista S. Wood	Assistant.	4					
Lucy E. Davis	"	2, 3					
Sarah E. Foster	"	1					
<i>Franklin School.</i>							
Emma J. Thompson	Principal.	4, 5					
Susan P. Richmond	Assistant.	2, 3					
Mary E. Tufts	"	1					
<i>Adams School.</i>							
Jennie L. Morehouse	Head Assist.	9					
Abby J. Warner	Assistant.	8					
Estella M. Haynes	"	3, 4					
Lydia A. Brierly	"	1, 2					
<i>Clafin School.</i>							
Alice Pitts	Principal.	6, 7					
Lilla T. Wilder	Assistant.	5					
Mary R. Ware	"	3, 4					
Lizzie Flint	"	1, 2					
<i>District No. 4.</i>			889	717.5	626.8	4	36
H. Chapin Sawin	Master.						

NAMES OF TEACHERS.	Department.	Class.	Whole No. of Pupils during the Year.	Average Whole No.	Average Attendance.	No. of Pupils under 5.	No. of Pupils over 15.
<i>Bigelow School.</i>							
Clara C. Prince	Head Assist.	8, 9					
Eudora Sanford	Assistant.	8					
Martha M. Bakeman	"	7					
S. Louise Shelton	"	6					
Josephine H. Waters	"	5					
Anna F. Gage	"	4					
Mary H. Dwyer	"	4, 5					
<i>Underwood School.</i>							
Emma M Cleary	Assistant.	3					
Annie L. Wood	"	2					
Josephine W. Littlefield	"	1					
<i>Lincoln School.</i>							
Alotta C. Wilmarth	Assistant.	1, 2, 3					
<i>Jackson School.</i>							
George G. Edwards	Principal.	6, 7					
H. Augusta Millard	Assistant.	5					
Louise W. Stearns	"	4					
Ellen F. Dalrymple	"	3					
Ella M. Hotchkiss	"	2					
Jeannette A. Grant	"	1					

The following Table gives the Statistics of Monthly Attendance, and the Aggregate Attendance, for School Year ending June 27, 1879.

SCHOOLS.	SEPTEMBER.			OCTOBER.			NOVEMBER.			DECEMBER.			JANUARY.			FEBRUARY.		
	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.
Mason	372.3	341.8	91.9	375.8	340.6	91.4	390.3	343.1	91.1	378.3	322.4	86.5	365.9	322.6	88.7	362.2	315.2	88.1
Prospect	209.4	201.5	96.6	221.1	209.9	95.1	265.2	242.4	91.6	215	190.2	89.3	206	187.4	90.5	208.6	189.6	91.9
Hyde	104.9	98.4	93.7	99.8	92.8	93.1	99.6	90.2	90.8	99.8	88.1	88.2	98.1	88.3	90.2	94.4	79.4	84.4
Oak-Hill	18.7	17.1	91.4	22.1	18.3	82.8	19.4	15.2	78.3	20.2	16.7	82.6	17.5	12.6	72	16.4	12.5	76.2
Thompsonville	36	34.2	94.8	37.3	35.9	95.5	37	34.7	93.1	37	32.1	86.8	33.9	28.5	85	36	31.4	87.2
District No. 1	741.3	69.3	93.5	756.1	697.5	91.6	820.5	725.6	89	750.3	649.5	86.7	721.4	639.4	86.5	717.6	628.1	85.6
Williams	208.2	196.5	94.2	217.9	209.5	96.2	215.9	201.5	93.3	213.1	192.3	90.5	209.9	189	90.6	200.4	182.4	91
Hamilton	96.4	93.4	96.8	98.9	96.3	97.6	99.9	96.8	96.8	96.3	91	94.9	95.7	93	97.2	105.7	91.5	96
District No. 2	304.6	289.9	95.5	316.8	305.8	96.9	315.8	298.3	95	309.4	283.3	92.7	305.6	282	93.9	306.1	274	93.5
Pierce	159.1	155	97.4	159.4	150.2	94.4	158.9	153.1	96.2	157	145.4	92.6	154.7	147.9	95.6	152.5	142.2	93.2
Davis	188.6	178.5	94.8	194.9	184.6	94.9	203.7	192.6	94.8	189.8	162.3	86.7	191.4	174.6	91.8	192.5	171.6	89.7
Franklin	119.2	114.4	95.8	118	108.9	92.3	115	107.6	92.7	114.3	104.3	90.6	113.5	104.1	90.5	111.5	99	86.5
Adams	143.4	135	92.8	136.2	130.4	92.8	136.9	136.6	90.5	149	130	87.1	143.4	124.8	86.9	145.1	124.6	85.8
Clafin	163.2	152.4	93.3	174.3	162.4	93.2	169	152	90.1	159.3	132.8	83.5	149.9	130.2	86.7	145	123.7	86.2
District No. 3	775.5	735.3	94.8	796.8	745.5	93.3	797.5	741.9	92.8	769.4	675	88.1	752.9	681.6	90.3	746.6	663.1	88.3
Bigelow	315.3	295	93.4	316.9	292.6	92.4	309.5	282.7	91.4	306	266.2	87.1	295	261.8	88.9	304.3	269.2	88.8
Underwood	139.6	126.7	91	145.9	134	91.6	140.5	115.1	82.6	145.8	117.1	80.5	142.5	105.8	74.3	142.6	119.3	83.5
Lincoln	30.1	28.1	93.3	36.9	34.9	94.5	38.7	36.2	93.7	37.2	31.5	84.6	34.8	29.5	84.7	35.4	30.4	85.8
Jackson	251.5	201.8	87.1	233	205.1	88	228.9	199.1	87.3	228.3	197.1	86.3	214.3	177	82.5	216.2	181.1	84
District No. 4	716.5	651.6	91.2	732.7	666.6	91.6	717.6	633.1	88.8	717.3	611.9	84.6	686.5	574.1	82.6	698.5	600	85.5
Hugh	274.4	262.5	95.6	271.2	258.4	95.2	269.7	247.2	91.6	267.5	242.8	90.7	261.9	239.1	91.3	254.7	232.5	91.1
Total	2812.3	2632.3	94.1	2873.6	2673.8	93.7	2921.1	2646.1	91.4	2813.9	2462.5	88.6	2728.3	2416.2	88.7	2723.5	2397.7	88.8

The following Table gives the Statistics of Monthly Attendance, and the Aggregate Attendance, for School Year ending June 27, 1879.

SCHOOLS.	MARCH.			APRIL.			MAY.			JUNE.			YEAR.		
	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.	Average Whole No.	Average Attendance.	Per cent Attendance.
Mason	389.8	335	90.9	365.6	324.3	89.8	356.1	320.1	90.5	345.5	301.6	88.4	—	—	—
Prospect	211.1	193.3	91.9	220.8	207.7	94	223.9	212.7	95.3	193.6	181.5	94.5	—	—	—
Hyde	96.2	88.4	91.9	108	97.7	90.7	101.2	95.3	94.2	105.9	98.9	93.2	—	—	—
Oak-Hill	16.7	15.3	82	19.7	15.3	77.6	20.3	16.2	79.8	18.6	15.3	82.2	—	—	—
Thompsonville	36.5	33.6	92.1	36	32.9	91.3	37	33.5	96	36	33.3	95.4	—	—	—
District No. 1	750.3	665.6	89.8	750.1	677.9	88.7	738.5	679.8	91.1	699.6	631.6	90.7	744.5	688.8	89.2
Williams	199.1	183.5	92.2	212.3	196.2	93	210.7	198	95.3	201.2	187.9	93.8	—	—	—
Hamilton	94.2	91.2	96.8	94	91.4	97.1	97.7	94.6	96.7	96	93.5	97.6	—	—	—
District No. 2	293.3	274.7	94.5	306.3	287.6	95	308.4	292.6	96	297.2	281.4	95.7	306.3	287	94.8
Pedree	151.7	141.5	93.3	146.1	139.1	94.9	140.5	131.9	93.7	135	128.4	95.1	—	—	—
Davis	181.1	165.3	91.4	198.4	182.7	92.6	203.2	186.2	93.5	203.1	187.9	92.9	—	—	—
Franklin	114	107.8	93.9	123	113.8	92.9	130.7	121.8	93.1	133	125.1	93.9	—	—	—
Adams	141.4	129	91	148.9	131.7	88.4	149.8	135.5	90.3	146.1	133.2	91.2	—	—	—
Chaffin	144.7	130.6	89.4	154	139.5	90.6	162	149.8	92.5	156.3	139.8	89.2	—	—	—
District No. 3	752.9	674.2	91.8	770.4	706.8	91.9	786.2	728.2	92.6	773.5	704.4	92.5	770.2	705.6	91.6
Bigelow	208.6	209.1	90.2	208.4	267.6	90.9	287.4	252.8	87.9	271	236.6	87.1	—	—	—
Underwood	138.3	118.3	85.5	165.2	141.6	84.5	172.6	150.1	87.3	169.1	145.7	86.3	—	—	—
Lincoln	36.2	32.6	90.5	41.9	38.6	92.1	40.2	37	92	42.4	37.7	88.9	—	—	—
Jackson	213.7	185.4	86.6	244	208	84.8	247.7	206.7	84.2	239.5	202.7	84.9	—	—	—
District No. 4	686.8	605.4	88.2	749.5	655.8	88.1	747.9	646.6	87.9	722	622.7	86.8	717.5	626.8	87.5
High	249.9	224.7	89.9	238.6	216.7	90.8	226.1	203.4	89.9	217.8	199.5	91.6	253.2	232.7	91.9
Total	2713.2	2444.6	90.8	2814.9	2544.8	90.9	2807.1	2550.6	91.5	2710.1	2439.6	91.5	2791.7	2540.9	91

SCHOOL APPROPRIATIONS FOR 1879.

General Appropriations for Support of Schools	\$72,150 00	
Received from the Dog Tax	1,014 30	
	<u>73,164.30</u>	
Amount transferred to Repairs and Incidentals	1,380 29	\$71,784 01
Amount paid to Superintendent	\$2,700 00	
Amount paid to Teachers	60,601 75	
Amount paid to Janitors	3,968 00	
Amount paid to Secretary	300 00	
Amount paid for Fuel	3,806 01	
Amount expended	<u>71,375 76</u>	
Balance unexpended		\$408 25
Appropriation for Repairs and Incidentals	\$8,000 00	
Amount transferred from General Appropriation	1,380 29	
	<u>\$9,380 29</u>	
Amount expended	<u>9,380 29</u>	
Appropriation for Evening School	\$500 00	
Amount expended	426 53	
Balance unexpended	<u>73 47</u>	
Appropriation for Industrial and Mechanical Drawing	\$300 00	
Amount expended	227 50	
Balance unexpended	<u>72 50</u>	
Appropriation for Conveyance of Pupils to and from the High School,	\$900 00	
Amount expended	850 00	
Balance unexpended	<u>50 00</u>	
Total balance unexpended		<u>\$604 22</u>
Expenditures for 1879		\$82,260 08
Expenditures for 1878		83,208 63

ISAAC HAGAR, *Secretary.*

ANNUAL REPORT
OF THE
TRUSTEES
OF THE
NEWTON FREE LIBRARY,
NEWTON, MASS.,
FOR THE YEAR ENDING DECEMBER 31, 1879.



BOSTON:
PRESS OF W. L. DELAND AND SON,
Congress Building, 4, Post Office Square.
1880.

BOARD OF TRUSTEES, 1879.

AT LARGE.

BRADFORD K. PEIRCE	TERM EXPIRES 1884.
JULIUS L. CLARKE	TERM EXPIRES 1883.
JAMES F. C. HYDE	TERM EXPIRES 1882.
GEORGE H. JONES	TERM EXPIRES 1881.
JOHN S. FARLOW	TERM EXPIRES 1880.

FROM THE BOARD OF ALDERMEN.

GEORGE D. ELDRIDGE	TERM EXPIRES 1880.
------------------------------	--------------------

FROM THE BOARD OF COMMON COUNCIL.

NATHAN MOSMAN	TERM EXPIRES 1880.
-------------------------	--------------------

ORGANIZATION FOR THE YEAR 1879.

PRESIDENT.

GEORGE H. JONES.

SECRETARY.

GEORGE D. ELDRIDGE.

COMMITTEE ON THE LIBRARY.

PRESIDENT, *ex officio*.

BRADFORD K. PEIRCE.

JOHN S. FARLOW.

JULIUS L. CLARKE.

COMMITTEE ON THE BUILDING.

PRESIDENT, *ex officio*.

GEORGE D. ELDRIDGE.

JAMES F. C. HYDE.

NATHAN MOSMAN.

SUPERINTENDENT.

BRADFORD K. PEIRCE.

LIBRARIAN.

HANNAH P. JAMES.

ASSISTANT LIBRARIAN.

CAROLINE B. JACKSON.

JANITOR.

JAMES J. TOWER.

ORGANIZATION FOR THE YEAR 1880.

PRESIDENT.

GEORGE H. JONES.

SECRETARY.

JULIUS L. CLARKE.

COMMITTEE ON THE LIBRARY.

PRESIDENT, <i>ex officio</i> .	BRADFORD K. PEIRCE.
JOHN S. FARLOW.	JULIUS L. CLARKE.

COMMITTEE ON THE BUILDING.

PRESIDENT, <i>ex officio</i> .	NATHAN MOSMAN.
JAMES F. C. HYDE.	JAMES R. DEANE.

SUPERINTENDENT.

BRADFORD K. PEIRCE.

LIBRARIAN.

HANNAH P. JAMES.

ASSISTANT LIBRARIANS.

CAROLINE B. JACKSON.	MARIE L. CLAPP.
----------------------	-----------------

JANITOR.

JAMES J. TOWER.

TRUSTEES' REPORT.

To his Honor the Mayor and the City Council of Newton.

THE Trustees of the Newton Free Library have the honor of presenting for the year ending Dec. 31, 1879, the following Report :

The full and complete Report of the Superintendent made to the Trustees, and herewith submitted with their cordial endorsement, renders an extended one from them unnecessary.

The courtesy which has been extended to the Trustees by the city government hitherto, gives them confidence in presenting the necessities of the Library for the ensuing year, and in supplementing the Report of the Superintendent, by asking your special attention to some items of administration and expenditure.

DISTRIBUTING AGENCIES.

The necessity and value of this method of placing the books within reach of all the citizens of our city, render necessary better accommodations at the points of distribution, and more frequent and systematic transit to and from those points. A proper system requires a daily distribution, which will require the time of a man with his team, at a cost, including the pay of those in charge at the agencies, of at least \$1,200 per year, whereas the present system costs \$400. The Trustees do not feel authorized to make a change which will require an addition to the appropriation asked for, of at least \$800, without an expression of approval by the city government.

SHELF ROOM.

An increase of shelf capacity is quite necessary, and the Trustees would urge this requirement upon your early consideration. This need was anticipated when the Library was opened, and the Trustees then reported that the alcoves were so arranged that the shelf room could be doubled, and thus make room for some 30,000 volumes in all. The Superintendent now reports that we have 15,548 volumes, and that additional room is required as soon as consistent. A library worthy the name, must place upon its shelves new works as published, to a reasonable extent; its readers are on the alert for such books; and while there is much that should not be bought, the increase of that which is good, is material and necessary, and should be provided for. The Trustees are confident that no worthless, and few objectionable books are on its shelves, and that no circulating library has a larger proportional number of valuable works for reference or general reading than ours, and we desire that the youth, the adult, and those of mature age, can be sure of finding that which will interest and instruct upon any subject which is to them of special value.

No definite estimate has yet been made of the cost of such additions as are requisite, but approximately it may be stated at \$1,200.

VENTILATION.

With the increase of numbers of persons in both the Library and Reading-Room, more gas is consumed, and the imperfect ventilation of the lower story has thus become a matter of serious complaint, and requires early improvement so far as is possible.

The Trustees have no special plan for the accomplishment of this difficult matter, and hope for the attention of the Committee on Public Property to it at an early day.

INTERIOR ADMINISTRATION.

The reference of the Superintendent to the work of the Librarian is timely, and if his suggestions are acted upon, a large part of the work upon the preparation of new books for circulation, and upon catalogue work, must be performed by an assistant, so that Miss James can devote time to answering questions, and giving such help to the youth, and others, as they may desire in the choice of books, and which she is eminently qualified to give.

It is quite necessary also that some portion of her time should be given to the detail of the Superintendent's duties as it is quite too much to expect that he should take so much of his valuable time and labor from his professional duties. The increased expenditure for this purpose is included in the estimate for the ensuing year.

WEST NEWTON ATHENÆUM.

The correspondence had with the West Newton Athenæum, to which the Superintendent refers, has not been resumed since the subject was referred back from the city government to the Trustees, "with full power," nor are the Trustees aware that the Athenæum desires any further negotiation.

As the Library of the Athenæum would be a large and valuable accession to the City Library, and as in the judgment of the Trustees of the latter, the union of the two would be of advantage to both, the Trustees of the City Library were very desirous that, as in the case of the Newton Centre Library Association, such an union might be consummated. As, however, the wishes of the Athenæum were in effect to make it a Branch Library, this did not, and does not now seem to come under our legitimate action without some positive instruction from the city government. Should the Athenæum desire at any future time to make such a union as comes within the sphere of duty of the Trustees of the City

Library, the latter do not doubt their ability to so arrange for an interchange of books, as, that the Athenæum shall be secure in the full benefit of the City Library.

The Trustees regard it as a duty to call the attention of the city government to the true function of a public library, which is demonstrated by those who are making the subject of complete education a study, and which has been specially voiced at the Conventions of Librarians and educators referred to by the Superintendent. The public library should no longer be regarded as a show-case of books, nor a huge collection of everything printed, to feed morbid appetites, but the place where can be found everything in literature which will interest, instruct, and educate our youth for the duties of life, and afford to mature minds aid in culture and improvement; when the public library meets such requirements it becomes the complement and supplement of the public school and other educational institutions. The Trustees believe the Newton Library as fully meets these conditions as any one of its size and age in our country, and that under the fostering care of the city government it will steadily increase its present usefulness; with this end constantly in view, the Committee for the purchase of books, have selected, and will continue to select, the best class of reading, and such works for reference as are most valuable to the professions, to students, and to mechanics and artisans. If in accordance with this estimate of the true function of the Library, the appropriation asked for seems excessive, the Trustees desire that a due regard may be had for the foregoing considerations.

ALDEN SPEARE FUND.

The income from this fund has been, up to Dec. 31, 1879, \$79.18, of which there has been expended \$70.45 in accordance with the conditions of the donor.

The Trustees have carefully estimated the amount of appropriation necessary for the ensuing year, and have fixed

upon the lowest sum which will meet the requirements, and respectfully ask that \$7,500 be appropriated.

All of which is respectfully submitted.

GEO. H. JONES,

President Board of Trustees.

ESTIMATE IN ITEMS FOR 1880.

Salaries	\$3,300
Reading Room	350
Incidentals	225
Repairs	75
Printing, etc.	70
Binding	275
Gas and Coal	700
Agency express	400
Blanks, etc.	120
Furniture, etc.	100
Postage, etc.	15
Books	2,000
Total	<u>\$7,630</u>

SUPERINTENDENT'S REPORT.

To the Trustees of the Newton Free Library.

GENTLEMEN:—In submitting to you, according to the requisitions of an ordinance of our city, an annual report for the year just ended, I must express my regrets that my able predecessor, Mr. Frederick Jackson, who has so efficiently and skilfully managed the Library for the previous five years, and had acquired so much invaluable experience, felt called upon to resign the office of Superintendent. My many other duties rendered my acceptance of the position, otherwise grateful to my tastes and in the line of my studies, a matter of great reluctance, and have prevented my meeting my own apprehension of what so responsible a supervision requires, and ought to receive, at the hands of the executive officer.

There have been few incidents to distinguish this year from the previous one. The administration of the Library has been attended with no uncommon difficulties. The only change in its personal force has been the addition of Miss M. L. Clapp,—a lady of considerable experience in Library work—who has aided in the preparation of the catalogue, and will be able, hereafter, to relieve the Librarian of most of the office details, and permit her to give more of her personal attention to the patrons of the Library.

A favorable change, meeting the wishes of those residing in Newton Centre, has been made in the agency of that ward, and the agency at North Village, which had been closed for a year, has been re-opened, and is now successfully administered.

The Auburndale Book Club, which ceased to keep up its

organization after the establishment of the City Library, forwarded its remaining books—about one hundred and fifty—through Rev. Milton P. Braman, D. D. and G. B. Knapp Esq., as a donation to the Free Library. These volumes have been added to our list, or exchanged for others, where they were duplicates.

We have been in often consultation, during the year, with the Trustees of the West Newton Athenæum, hoping to secure some satisfactory arrangement by which those of our citizens heretofore largely dependent upon that Library, might be able to avail themselves more fully of all the advantages of the Free Library. We trust ere long, such a plan mutually advantageous to the proprietors of the Athenæum and the Trustees of the city institution will be devised.

During the previous year we commenced the preparation of an exhaustive card catalogue, which would open, as a full index, all the treasures of the Library to its patrons. When this is once completed it can be readily printed, and thus supply a full catalogue up to the time of its issue, of the books, their authors, and their subjects. But as this work could not be hurried, and the previous catalogue and bulletins were far behind the later acquisitions of the Library, and even these were exhausted, a very imperative necessity was felt, especially for the wards where agencies supply the books, for a new catalogue, at as early a day as possible. My predecessor referred to an important work of this description—a subject catalogue—embracing five thousand titles of the best works in all departments of literature, then in course of preparation by the American Library Association. This work, when completed will be an admirable index, especially serviceable to new libraries, just about to fill their shelves; but the necessary delay incident to its preparation and publication, and the fact that when completed it would contain books that we have not yet obtained, and leave as many others uncatalogued upon our shelves, assured us that it would not meet the existing and pressing demand for some adequate

key to unlock at once our own stores of literature, to our citizens throughout the different wards. At the request, therefore, of the City Council, for which an appropriation was made, the Librarian has prepared a popular catalogue of all the books, under their author's names, arranged also under subjects, according to the latest suggestions of the most experienced of our public Librarians. The work is now rapidly passing through the press, and will be ready for delivery in a few weeks. It is not a complete catalogue of subjects, but it is so thoroughly classified that little difficulty will be found in discovering, by its aid, the contents of our shelves, upon any given theme, and it will prove to be, we think, one of the best of its kind. Where further information than it affords is needed, recourse can be had to the card catalogue, in the Library, which will move rapidly on to its completion. This already embraces all the books bought within two years, and a considerable portion of the previous volumes. This catalogue, as those that have examined it understand, is really quite a full index to all the books in the Library, with the exception of periodicals. While ordinary catalogues have only one entry for a book, this has as many as the volume contains distinct subjects. These cards, under their appropriate letters, are placed in drawers, alphabetically arranged; the whole forming a large cabinet, accessible to visitors in Edmands Hall. The Librarian is always ready to explain the nature, and the mode of availing one's self of its advantages. The new index to periodical literature, now in preparation under the supervision of Mr. William F. Poole, of the Chicago Public Library, aided by a large number of Librarians in England and America, is now approaching completion, and is to be soon published by Messrs. Houghton, Osgood, & Co., of Boston. It will bring the work down to January 1, 1880. This will open up to eager students a vast storehouse of short, but carefully prepared essays upon all the leading subjects which have been under discussion throughout Christendom during the last quarter of a century.

Our Library is quite rich in this material, and opportunities for increasing this department are not overlooked.

During the year we have been able to secure larger accessions to the Library than during any year since it came under the care of the present Board of Trustees, and the books obtained have been chiefly of the highest character, while the demands for popular and juvenile reading have not been forgotten. With the income of the Speare Fund, contributed by Hon. Alden Speare, a very fine collection of volumes, according to the terms of the gift, "for the Promotion of Manufactures and the Mechanic Arts," have been purchased, as the foundation of a broad selection ultimately, of such important works. During the year, by purchase, 1,516 volumes have been added to the shelves of the Library, and 173 by donations. Two missing books have been restored ; making the total accessions 1,691. There has been but one volume lost the present year, and 117 worn out by long use ; which, subtracted from the above figures, leave our net increase at 1,573. Last year the actual increase was 1,039. The total number of volumes now in the Library is 15, 548. It is quite a singular fact, that the first book lost from our shelves, Sept. 5, 1867, has been returned within a few weeks. It was found in the Providence railroad station, laid away and forgotten by the gentleman discovering it, until the present time. When it came to light, it was at once forwarded to the Library.

Among the donors to the Library during the past year, we notice the gift of 17 volumes by Mr. S. E. Decker, 13 by Mr. John T. Bancher, 4 from Rev. G. W. Shinn, and the same number from A. C. Fearing jr., 3 from Mr. Frederick Jackson, and 2 each from I. F. Kingsbury, Samuel P. May, and W. W. Keith. A number of gentlemen have contributed single volumes ; a donation of books was received from Mrs. J. W. Hayes, and 29 have been received from the Superintendent of the Library. Valuable Congressional documents have been secured through the kind offices of Ex-Governor Claflin.

Of the additions made, 381 are classified under the head of Prose Fiction and Juvenile Works; 213 as Essays, Poetic, and Dramatic volumes; 92 Literary periodicals; 134 Geographical volumes and Travels; 160 Biographical and Religious works; 170 Historical; 199 volumes upon the Natural Sciences; 31 upon Political and Social Science; and 120 volumes for the Reference library — a division of subjects which, we think, must strike our citizens as giving a fair proportion to the various departments of the Library. We have kept abreast of the current publications of the day, and have provided duplicates where volumes of special interest have been issued.

It is an interesting and encouraging fact that we continue, slowly indeed, to decrease the average of fictitious reading among our patrons; and this is not to be attributed to a lack of provision of the best class of these works, but to a growing taste in the community for something more substantial. The percentage of novels, which in the majority of public libraries reaches about seventy-five, on a scale of one hundred, falls with us this year as low as 65.3, and during some months has ranged at 62.5. As a confirmation of the emphatic remarks, made at the late Conference of Librarians by C. F. Adams, jr., Esq., as to the value and popularity of the bound volumes of Harper's Monthly Magazine, in a public library, we can testify that there is scarcely a work upon our shelves that preserves such a hold upon our young readers as a set of these magazines, and many of the volumes are fairly worn out in honest service.

The additions of books during the year have about filled all the available space, and portions of our volumes have already to be placed upon shelves in a storage room adjoining the Reading-Room. It will be indispensable that we have, at an early day, an increase of shelving-room. A beautiful design by A. B. Meacham, Esq., which has been submitted to the Board, shows how an additional line of alcoves, above the present, on the west side of Edmands Hall, can be constructed

without changing any of its permanent features, or, in the least, detracting from its graceful appearance, or injuring the light of the alcoves. If this plan were carried out, our shelving-room would be increased by about one-half of the present capacity.

During the year the appreciation of the Reading-Room has been shown by a marked increase of its visitors. Its files have been sustained, and new periodicals have been added. It now affords a wide opportunity for the perusal of the issues of the newspaper press from all parts of the country, and of the leading English and American monthlies and quarterlies. Several German, French, and Spanish periodicals have also been regularly supplied to its files by the Superintendent. We have striven to meet the suggestions of our citizens as to the hours during which it was desirable to have this room accessible to the public. Attention is now being given to the question of its ventilation, which has been the chief occasion of complaint in this department during the fall and winter.

The Library and Reading-Room have been open every day during the year, with the exception of the Sabbath and legal holidays. The circulation of books, as last year, has fallen off several thousand volumes. It is a singular fact that the same limitation of circulation has occurred in other public libraries. Much of this, with us, however, is due to our inability to supply catalogues and bulletins of our late very interesting purchases. This has been specially true in the wards of the city supplied by agencies. From these constant and earnest inquiries have come for lists of our new books. Some of this falling off, doubtless, arises from the fact that we have not loaded our shelves with the class of sensational novels, new and old, which find such an amazing circulation in the libraries where they are provided for their patrons. We do not consider this an occasion for lamentation, while it is a source of congratulation that the circulation of substantial works has largely increased.

At the late Conference of Librarians, held in Boston, last July, Dr. James Freeman Clarke remarked, at the opening of a short address, that, in his youth, "a library was regarded as a prison where books were to be confined. The Librarian was the Jailer answerable for their safe-keeping; readers and borrowers were regarded with distrust, as those who might injure the books, or, perhaps, never return them. All sorts of precautions, therefore, were taken to keep these pestilent borrowers at a safe distance." But now, he rejoiced that he had been permitted to listen to Librarians who think it a part of their duty to encourage readers to take out books, and to help them to find what they want. Referring to this sentiment Prof. W. P. Atkinson, speaking on the same occasion, remarked: "There cannot be a doubt that we are discovering along with their immensely increased powers of usefulness there is coming a corresponding enlargement of capacity for mischief; that to make a working library, something more — much more — is necessary than simply to pile books together; that libraries cannot be left to run themselves any longer; that with enlargement of sphere and increasing complications of machinery there have come increased responsibility, and a vastly increased demand for skill, and knowledge, and judgment in the management of so potent an instrumentality." It was the growing apprehension of this responsibility that occasioned, some four years since, the calling of the first Congress of Librarians for mutual consultation and for the arrangement of annual national or international sessions. The second meeting of this body was held in Manchester, England, and awakened much interest. Our Library was well represented on the occasion by our late efficient Superintendent. Full reports of the proceedings and the papers read were published, forming a very valuable volume. The third session of the Conference was held, as noticed above, in Boston, last summer, and was by far the most interesting and important of them all. It drew to its sessions the leading Librarians of the country, many of the Trustees of public libraries, and a

large body of the most intelligent literary men and women of the vicinity. The sessions, during portions of four days, were crowded with practical essays upon the various questions relating to the construction, ventilation, management, influence, means of increased usefulness, and possible perils of public libraries, and, as opportunity offered, with vigorous and instructive discussions. The testimonies of persons connected with the practical workings of these institutions awakened in the minds of intelligent listeners a fresh sense, both of their possibilities of usefulness, and their liabilities of becoming a positive intellectual and moral injury to the community. By the facilities which a carelessly administered library offers for the unlimited reading of light, emasculating, and even depraving literature, it may become a curse to the young people in its vicinity. Extraordinary statements were made by Librarians of the number of novels, of the poorest classes, taken out, week after week, (more than one a day in some instances), and the evil results to be expected from such a misuse, or rather positive abuse, of these free institutions.

Many suggestions were made as to the best measures for correcting this very serious evil, thus perpetuated at the public expense. Charles Francis Adams, jr., proposed to place the axe at the root of the tree, and to provide no works of fiction for the free library. Let those, he urged, who wish for novels purchase them for themselves, as they are obliged to do, if they desire other luxuries. But this radical step would both cut off a large class of readers, who, it is found, are won to the library by works of the imagination, but come gradually, under proper directions, to acquire a taste for more serious, and not less entertaining works, and also would shut out from the library shelves a very large portion of really improving and inspiring literature — the masterpieces of the leading minds of their times. The evil is not beyond correction, although the public character of the institution renders its close supervision somewhat delicate and difficult. There must be a careful sifting of this vast body of the litera-

ture of the imagination. Our Library in Newton has never admitted to its shelves the works that have chiefly fallen under the sharp criticism of conscientious educators and guardians of the young. We have not on our list the sensational works of fiction which, in other public libraries, exceed all other books in their circulation. Where the writer of a novel is not known by the Superintendent, Book Committee, or Librarian, especially if a French translation, the work is submitted to a judicious reader before being placed upon the list; particularly is this true in the instance of juvenile books. Much of this important service has been rendered by ladies of our city, who merit the thanks of the community for the performance of this laborous, but very useful task.

Our school teachers can render valuable aid in directing the reading of their pupils. Much interest was awakened by Mr. R. C. Metcalf, Master of the Wells school, Boston, and by Mr. S. S. Green, of the Worcester Public Library, at the late Conference, by their very practical suggestions as to the relation of the public school to the public library. The former showed how successful had been his endeavors, with the aid of the Librarian of the City Library, to direct the reading of his pupils.

One of our earnest city pastors—a member of the School Board—has imposed upon himself the task of calling the attention of our young people, through the columns of the local paper, to the attractive and instructive works that have been, from time to time, added to the Library. Such a service cannot be too highly appreciated.

But, after all, we must press upon parents a responsibility which falls chiefly upon them, as the immediate guardians of their children, of watching over their reading. There is no less occasion, but rather more, for them to consider carefully the character and influence of the books of their children, than that of the companions with whom they associate. The influence of the former is more subtle and permanent, and the consequences are often more serious. By family reading a taste

for works of a higher character can be readily formed and nourished.

We do not shrink, however, from the portion of responsibility that falls upon the official management of the institution. By securing as we hope to do, more leisure for the Librarian, she will be enabled to give personal attention and advice to the young people that avail themselves of the opportunities of the Library. By conspicuous bulletins we now call attention to the fresh works of travel, of history, of science, and biography, which we are constantly adding to our shelves. It is one of the most encouraging sights to an intelligent well-wisher of his race, nearly every evening that it is open, to see the different tables in Edmands Hall surrounded by youths of both sexes, consulting books of reference, or examining with keen pleasure some of the many illustrated volumes with which the Library is now so well supplied.

If the Free Library is indeed becoming, as it is often called, "the People's University," succeeding and supplementing the public school, gathering into it all ages, and every variety of character, one of the great positive defences against the saloon and the gambling hall, and a powerful inspiration to the intelligence and good morals of the community, no painstaking or necessary expense should be spared to save it from all its abuses, and to secure to it the highest abilities and most conscientious faithfulness in its administration. We have reason to believe that the Free Library of Newton is largely defended from demoralizing elements, and is continually growing in usefulness and in power for accomplishing good in our community.

The Superintendent is happy to bear testimony to the faithfulness and courtesy with which the Librarian and her assistants have administered the internal details of the Library, and the cheerfulness and ability with which they have met the constant demands upon their skill and patience.

I would also speak of the ready attention which the Com-

mittee upon Public Property of the City Council has given to any calls that have been made for repairs or improvements in the Library building.

I have the honor, gentlemen, with sentiments of sincere respect, to submit to you the above details of the conduct of the Free Library for the past year.

BRADFORD K. PEIRCE.

Superintendent.

APPENDIX.

A.

RECEIPTS.	1879.	1878.	1877.
Dec. 31.			
Municipal Appropriation	\$7,000.00	\$7,500.00	\$6,000.00
Fines, Bulletins, Catalogues, etc. .	286.08	327.98	322.09
Cash on hand at last report . .	32.76	7.96	1,337.61
	\$7,318.84	\$7,835.94	\$7,659.70

B.

EXPENDITURES.	1879.	1878.	1877.
Salaries	\$2,601.60	\$2,698.26	\$2,480.58
Reading Room	302.65	370.20	367.82
Incidentals	203.49	225.87	353.39
Repairs	59.39	23.28	211.10
Furniture and Fixtures	111.98	741.08	41.04
Printing and Advertising	59.51	59.83	33.60
Binding	215.05	322.78	290.09
Books	2,518.52	2,013.80	1,378.90
Light and Fuel	674.85	760.55	684.55
Agency and Express	377.07	310.78	304.35
Blanks and Stationery	115.17	130.18	177.88
Postage account	13.37	13.64	37.42
Total Expenditures	\$7,252.65	\$7,670.25	\$6,360.72
Balance with City Treasurer \$36.21			
at the Library . . . 29.98			
Total balance	66.19	165.69	1,298.98
	\$7,318.84	\$7,835.94	\$7,659.70

C.

CIRCULATION.	1879.	1878.	1877.
Number of days the Library was open .	307	308	256
of holidays the Library was closed	6	5	5
of other week days the Library was closed . . . . .	...	...	52
of volumes delivered for home use	77,437	81,030	68,023
Average daily use	252	263	265
Largest daily use, Feb. 24	515	678	576
Smallest daily use, May 30	23	32	5
Number of books lost, and not paid for .	1	11	10
of books worn-out and withdrawn	117	168	65
of volumes re-covered	11,481	13,276	12,279
of volumes bound	482	544	298
of names registered during the year	849	938	682
Total number of names registered . . .	8,624	7,775	6,837

D.

ACCESSIONS.	1879.	1878.	1877.
Increase by purchase	1,453	982	869
by gift	173	130	111
by binding pamphlets	1	48	10
by binding periodicals	62	55	82
Number of missing volumes restored since last report	2	3	
Total accessions for the year	1,691	1,218	1,072
Number of volumes missing or withdrawn since last report	118	179	75
Actual increase	1,573	1,039	997
Number of volumes in the Library as last reported	13,975	12,936	11,939
Total number of volumes in the Library	15,548	13,975	12,936
Increase of pamphlets by purchase	4	17	5
by gift	15	103	23
Accessions for the year	19	120	28
Number of pamphlets as last reported	65	61	64
	84	181	92
Number of pamphlets bound since last report	2	116	31
of pamphlets on hand	82	65	61
of newspapers subscribed for	36	34	34
of newspapers given	11	12	9
of magazines subscribed for	30	24	20
of magazines given	2	1	1
Total number received	79	71	64

E.

CLASSIFICATION, GROWTH, SIZE, AND USE.	Vols. added during the year.	Total num- ber of vols.	Vols. issued during the year.	Per cent of Circulation.		
				1879.	1878.	1877.
<i>Literature.</i>						
Prose fiction and juvenile read- ing	381	4,087	50,583	65.3	67.36	71.38
Essays, poetry, and drama . .	213	1,901	6,335	8.2	8.41	8.27
Literary periodicals	92	1,085	2,148	2.7	2.01	1.91
Foreign literature	—	438	298	.4	.40	.39
<i>History.</i>						
Geography and travels	134	1,418	6,258	8.2	7.43	6.95
Biography	160	1,403	3,796	4.9	4.27	3.68
History	170	1,454	3,380	4.3	4.13	3.02
<i>Arts and Sciences.</i>						
Natural science and industrial arts	199	1,240	3,798	4.9	4.67	3.28
Political and social science . .	31	783	300	.4	.40	.22
Theology	73	689	368	.5	.79	.50
*Reference Library	120	1,050	173	.2	.08	—
Accessions for the year . . .	1,573					
Number of volumes in the Li- brary		15,548				
Circulation for the year . . .			77,437			

*Represents books loaned for home use by *special* permission.

F.

Appropriations for Catalogue	\$1,000.00
----------------------------------------	------------

EXPENDITURES ON CATALOGUE.

Salary Marie L. Clapp	\$275.00
Paid for catalogue cards	5.74
Rand, Avery, & Co., printing and binding	672.50
	<hr/>
	\$953.24
Balance with Treasurer	46.76
	<hr/>
	\$1,000.00

City of Newton.

ANNUAL REPORT

OF

THE CHIEF ENGINEER

OF THE

NEWTON FIRE DEPARTMENT,

For the Year ending December 31, 1879.



BOSTON:

T. W. RIPLEY, PRINTER, 138 CONGRESS STREET.

1880.

R E P O R T .

To the Honorable, the Mayor, and Board of Aldermen :—

IN accordance with the requirements of the ordinance, I beg leave to submit my first Annual Report of the condition of the Fire Department of this city, for the year ending December 31, 1879.

I have embodied, in this Report, all matters pertaining to the department, together with a list of officers and members, salaries paid, inventory of property, location of Fire Alarm stations, hydrants and reservoirs, account of fires, alarms, losses, and insurance on same, so far as could be ascertained, with such other items as may be of interest to your honorable body, and to the citizens of Newton.

The department, the past year, has shown itself competent to meet any and all emergencies to which it has been called upon to respond. With a large increase of incendiary fires, the losses are less than for many preceding years, due, in a great measure, to the prompt and efficient service of this department.

With the large territory to which the department is called upon to afford protection, the liability to total loss in the distant sections is very great, and for which this department is no way responsible. Lack of water facilities, or, if any, so far removed as to necessitate long lines of hose and decreased pressure, together with the distant location of fire and alarm stations, requires the most energetic efforts on the part of the Fire Department, with but small hopes of success. With the extension of the water mains, additional hydrants, and Fire Alarm stations, the department will be enabled to render more efficient service in these localities.

It is very necessary that the full working force of the department be kept up. Days and weeks may pass, and their services not be required, still it is imperative that the department be "Always Ready."

It will be for the interest of the City Council, and the citizens generally, that all proper means be furnished to keep the department up to its present standard.

Large sums of money are invested in apparatus and equipments, and in keeping the several stations where they are located, in order. It should be a matter of personal interest, to the tax-payers and the citizens, to visit the several stations, that they may see how their money is invested, at the same time encourage the members by their presence, and show them that their services are appreciated.

The several stations where permanent men are located, will be open each day (Sunday excepted), from 10 A.M. until 10 P.M.; during these hours visitors will always be welcomed, and every courtesy consistent with the service will be shown them.

INCENDIARY FIRES.

The frequency of fires of undoubted incendiary origin, the past year, is a matter of grave importance. That many of these fires can be traced to over-insurance, there seems no question, so long as the premiums are promptly paid; the matter of insurance is neglected, and only brought to notice through the investigations of fire department officials in ascertaining the cause of fires. While the promptness of the department is proverbial, still, every care and precaution should be exercised to guard against fire.

LOSSES AND INSURANCE.

For fires, losses, and insurance, which will be found to compare favorably with previous years, I refer you to the printed table of the same.

MANUAL FORCE.

The manual force of the department consists of a Chief Engineer, one Assistant Engineer, one Secretary, one Fire Alarm Operator, forty-five members of engine companies,

including Engineers and Drivers ; thirteen members of Hook-and-Ladder Company, twenty-four members of Hose Companies, making a total of eighty-six men.

APPARATUS.

The apparatus of the department consists of three steam fire engines, — two built by the Amoskeag Manufacturing Company of Manchester, N. H., one by Hunneman & Co. of Boston ; seven four-wheeled hose-carriages, — four built by Hunneman & Co., two built by the Amoskeag Manufacturing Co., one built in Philadelphia, — the hose carriages carrying five thousand feet of hose ; one Hook-and-Ladder Truck, built by Bulkley & Merritt, New York.

ENGINEERS.

The several engines are in charge of skilled mechanics, and all repairs the past year have been made by their respective engineers.

DRIVERS.

The drivers permanently employed are thoroughly competent and reliable. No accident of any kind has occurred to either horses or apparatus, while in their charge, and the wisdom for the continuance in the service of such employees cannot be questioned.

UNIFORM.

For the better appearance, and increased efficiency of the permanent force, I would recommend that they be uniformed.

PERMANENT DRIVERS.

The necessity of having permanent drivers for the hose carriages, and particularly those attached to the engines, is obvious.

The engines leave their houses immediately on receiving an alarm, while the hose carriages are delayed until a member comes in from the street. In case of day fires, this has proved a serious drawback. To obviate this, and for the increased efficiency to be gained, I would recommend the appointing of permanent drivers for Hose Carriages 1, 2, 3, and 4.

CALL MEMBERS.

The call members, those who do duty only in response to an alarm, have, as a rule, rendered a fair service the past year. But, as these members are employed in various capacities, and are scattered throughout the city, the service must of a necessity prove unreliable. Instances have occurred where employers have objected to their men leaving work in response to an alarm; situations, even, have been endangered from these causes, all of which tend to seriously cripple our working force during business hours.

Good men for this especial service are imperative, none other should be accepted.

FIRE ALARM TELEGRAPH.

This important auxiliary to the Fire Department, under the management of G. W. Ulmer, as operator, has performed its duties with unvarying regularity, and to its efficiency is due in a great measure the successful work of the department.

THE OPERATOR.

The operator in charge, although paid but a nominal sum, has devoted his whole time to the service. The result has been, that this branch of the department has never been in such complete working order since its introduction.

Our wires, as located, traverse streets thickly lined with trees, which prove fruitful sources of trouble in stormy weather; all disarrangement of the lines, either day or night, necessitates immediate attention and repairs. During the tornado of last July, the wires were seriously damaged and disarranged, requiring the most diligent and persistent efforts, until a late hour, before all parts of the city were again connected.

The liability of the city, in case of accident, resulting from defective poles, or broken wires, cannot be questioned. That this most important branch of the service may be kept up, I would recommend that the operator be paid a reasonable sum, and required to devote his whole time to its interest.

ADDITIONAL FIRE ALARM STATIONS.

With an area of seventeen and one-half square miles of territory, our twenty-two (22) Fire Alarm stations are entirely inadequate to its proper protection. More stations are needed, and should receive the early attention of the City Council.

Additional striking apparatus is needed in Ward Four (4) at Newton Lower Falls. I would recommend the placing of a steam whistle upon one of the mills at that place, and connecting the same with the Fire Alarm. This can be done at a less expense than a bell and fixtures, and I am satisfied will prove as satisfactory. I would recommend that the poles, used for the fire alarm wires, be painted, as a matter of preservation. I would also recommend that the Signal Stations, and, when placed on poles, the poles also, be painted red, that they may be more readily located in case of fire.

HYDRANTS.

The Hydrant service, so far as it has been extended, has proved an invaluable aid. In many sections, however, the lack of water-mains, and, in others, the scarcity of hydrants, still demands the service of all our present apparatus.

STAND-PIPES.

The attaching of Stand-pipes to the hydrants, for the use of the watering-carts, has proved a hindrance to the fire service. I would recommend their immediate removal.

RESERVOIRS.

The Reservoirs which still remain in good repair should be retained, particularly those in Wards One and Seven. I would suggest the advisability of said reservoirs being connected with the street mains, through a four-inch supply, with a shut-off-gate, so located as to be easily accessible in case of need: with this for a supply, two or more engines can be concentrated at these points.

HOSE.

The department has in use, at the present time, twelve thousand nine hundred feet of hose, — nine thousand nine hundred and fifty feet of leather, two thousand nine hundred and fifty feet of cotton hose (rubber-lined). Of the leather hose, twenty-six hundred feet is unfit for severe service, and should be replaced with new hose at the earliest opportunity.

Within the past few years, most of the large cities and towns have adopted the cotton (rubber-lined) hose; their experience having demonstrated that the many good qualities which it combines, such as strength, lightness, durability and cleanliness, recommends this grade of hose as the most economical to purchase.

The experience of this department with this hose, covers a period of nearly three years; during that time it has given the best of satisfaction, but one piece having proved defective under a severe pressure.

Nothing tends to demoralize the earnest efforts of the department so much as the bursting of hose at a critical moment. For this reason alone, the best hose to purchase is that which meets the requirements of our service in all emergencies. Hose that fails at a pressure of one hundred pounds will not meet the wants of this department. The testing of hose below that standard, will invariably prove costly experiments in cases of urgent need.

The further purchase of twenty-six hundred feet of hose will be necessary to meet the requirements of the department for the coming year.

CHEMICAL ENGINES.

The experience of the town in Chemical Engines was such, that for many years they have been considered of little practical utility. The many improvements, however, which have been made in these engines, and the wonderful success which they are meeting with, in all the large cities and towns, throughout the United States, most certainly com-

mend them as one of the most important adjuncts to a Fire Department. From personal observations in departments where these engines are used, and the wonderful celerity with which they can be placed in service, cannot but suggest the advisability of their adoption in this city.

Fires have occurred the past year, out of water limits, where, for the lack of one of these engines, the buildings have proved a total loss; in other cases, serious loss has resulted from water, which could have been avoided, had a Chemical Engine been available. I would suggest the advisability of purchasing a double tank engine of the above description, and the placing of the same in the house now occupied by Hose Four (4), and the return of that apparatus to Auburndale. With the placing of one of these engines in service, a portion of the new hose called for can be dispensed with.

HOUSES.

The several houses of the department were carefully inspected by the Committee on Public Property, and long-needed repairs and alterations were, upon their recommendation, authorized by the City Council. The stalls in the house of Engine Two were changed to face the apparatus; the sleeping accommodations in this house are not what they should be. I would respectfully call the attention of the City Council to the changes required at this house, as recommended by my predecessors in this office. The stalls in the house of Hook-and-Ladder No. One should be changed to face the apparatus, as now arranged in the other houses, excepting the house of Engine One, where this change is necessary, but impracticable, owing to a portion of the building being occupied by the police. I would recommend that the police be provided for in some other locality, and this building devoted to the requirements of the fire service. With the exception of the house of Engine Three, which will require a small outlay for painting, the buildings are in excellent repair.

While recognizing the necessity for strict economy in the expenditures of this department, still the apparatus and equipments must not be allowed to deteriorate; neither should necessary improvements be neglected.

NEWTON FIREMEN'S RELIEF ASSOCIATION.

This Association was organized August 2, 1879, for the purpose of affording relief to such members of the Fire Department as may be injured in health or limb while in the discharge of their duties as firemen.

The amount of funds now in the possession of the Association is \$312.00.

But one member of the Association has been a recipient of aid the past year; foreman S. E. Wetherbee of Hook-and-Ladder No. One, from sickness, caused by exposure at the Rowe Street fire in May, was granted five months' relief.

It is hoped that our citizens will encourage the members of the department, and help them place this Association on a firm basis financially, with such donations, no matter how small, as they may feel disposed to give. The compensation received from the city is small; the members in moderate circumstances, with the liability to accident or sickness frequent,—in either case resulting in extra hardship to a deserving class of men.

ACKNOWLEDGMENTS.

I desire to express my personal acknowledgments to His Honor the Mayor, for his uniform courtesy and interest manifested at all times, in matters pertaining to this department.

To the Honorable City Council, for the prompt attention given to all measures recommended for the benefit of the department.

To the Joint Standing Committee, Aldermen Barnes and Keith, Councilmen Kimball, Ellison, and Barton, for their cordial support and endorsement.

To Assistant Engineer Bemis my thanks are due for his earnest efforts and hearty co-operation, and to the officers and members of the several companies for the promptness and zeal displayed in the performance of their several duties.

To City Marshal Hinds, and his officers, for prompt attendance, and valuable services.

To the Superintendent of Streets.

To the Superintendent of Water Works. To the City Clerk, who, as Secretary to the Board, has rendered valuable assistance.

To the Boston Board of Fire Commissioners.

To Chief Engineer Green, and assistants, Flanders, Fernald, and Colligan, for courtesies extended.

And to all others who have, in any way, rendered this department service, these acknowledgments are tendered.

Respectfully submitted,

H. L. BIXBY,

Chief of Fire Department.

S U P P L E M E N T.

FINANCIAL STATEMENT.

Salaries, including engineers	\$12,970.72
Keeping of horses	3,192.00
Water rates for house supplies	209.00
Gas at houses	338.70
New hose	1,000.00
New truck	700.00
New ladders	300.00
New horse, Hose 7	175.00
Repairs, supplies, &c.	2,725.27
Labor, stock, and supplies, — Fire Alarm	1,000.00
	<hr/>
	\$22,610.69
Appropriation	\$22,000.00
Amount expended	\$22,610.69
Credit for sale old material, &c.	17.78
	<hr/>
Amount expended in excess of appropriation	\$592.91

APPENDIX.

JOINT STANDING COMMITTEE ON FIRE DEPARTMENT.

ALDERMEN.—F. G. BARNES, W. W. KEITH.

COUNCILMEN.—J. W. KIMBALL, W. P. ELLISON, C. C. BARTON.

BOARD OF ENGINEERS.

NAME.	AGE.	RANK.	RESIDENCE.	SALARY PR. ANNUM.
H. L. Bixby.	37	Chief Eng'r.	Margin Street.	\$1050 00
W. Bemis.	30	Ass't do.	Centre & Beacon.	300 00
E. O. Childs.	32	Secretary.	Richardson St.	100 00

PROPERTY IN CHARGE OF CHIEF ENGINEER.

1 horse,	1 hand lantern,
1 harness,	1 dark “
1 wagon,	1 whip,
1 sleigh,	1 Johnson pump,
1 buffalo robe,	1 hammer,
1 street blanket,	1 monkey wrench,
1 weight,	2 pairs plyers,
1 13-inch gong,	50 feet $\frac{3}{4}$ rubber hose.
1 headlight,	

Store Room.

100 lbs. waste,	2 telephones loaned by comp'y,
1 doz. sponge,	18 galls. sperm oil,
5 pr. curry combs (inferior),	4 “ polish,
2 “ “ (new),	1 gall. castor oil,
1 doz. harness soap,	3 brooms,
6 pkgs. matches,	9 hat tips,
2 pr. line snaps,	2 coats,
1 New Haven hitch,	1 pr. lanterns (old).
1 pr. frames,	1 duster,
15 fire alarm keys,	6 department badges,
1 set department dies,	10 lbs. Castile,
1 department badge die,	2 doz. soap,
3 boxes wheelgrease,	4 brushes,
3 pkgs. emery cloth,	3 H. hooks,
2 call bells,	25 lbs. packing.

NEWTON FIRE ALARM TELEGRAPH.

HEADQUARTERS CITY BUILDING, WILLOW ST., WARD 6.

NAME.	AGE.	BADGE.	RANK.	RESIDENCE.	SALARY PER ANNUM.
G. W. Ulmer.	29	1	Operator.	Lyman Street.	\$450 00

WIRES, ETC.

37 miles of wire on poles and buildings,	6 large gongs in circuit.
724 poles set,	4 small gongs “
	22 signal boxes,

LOCATION OF BELL-STRIKERS.

Elliott Church, Centre street,	Wards 1 and 7.
Methodist Church, Walnut street,	Ward 2.
City Hall, Washington street,	“ 3.
Congregational Church, Grove street,	“ 4.
Methodist Church, Summer street,	“ 5.
Mason School, Station and Beacon streets,	“ 6.

OPERATING ROOM.

1 four-circuit repeater, (in case).	1 lounge.
6 galvanometers.	1 clock.
2 switch-boards.	1 mirror,
2 keys in circuit (in case).	2 cuspadores. 1 desk, 2 chairs.

BATTERY ROOM.

4 stands for battery,	182 jars in circuit,	20 spare jars,
100 lbs. zines.	75 ft. kerite,	1 stove and pipe, 1 mirror.

STORE ROOM.

1 wagon, complete,	8 bits and bittstock,
1 splice ladder,	1 iron chisel,
1 harness,	3 files,
12 rubber hooks,	1 hammer,
1 pr. gas nippers,	1 countersink,
2 pr. cut “	2 doz. lag screws,
1 bbl. glass insulators (220),	1 gimlet (long),
50 ft. $\frac{1}{4}$ inch rope,	1 axe,
1 solder pot,	1 tool box,
1 pr. spurs,	4 doz. iron insulator pins,
2 spoon shovels,	2 “ wooden “ “
1 steel bar, 7 ft.	185 lbs. No. 9 BB galv. wire,
1 wire reel,	250 “ compound wire,
4 spike poles,	600 ft. parafine “
1 tree trimmer,	2 tampers,
2 mallets,	1 saw,
1 frame chisel,	1 screw-driver,
2 fork wrenches,	1 root cutter,
1 monkey wrench,	2 doz. cross-arms.

LOCATION OF SIGNAL BOXES.

-
- Box 4.—Auburn and Lexington streets, Auburndale.
- “ 5.—Hose house No. 6, Lower Falls.
- “ 6.—High street, Upper Falls.
- “ 7.—Walnut street, near R. R. Station, Newton Highlands.
- “ 8.—Beacon and Hammond streets, Chestnut Hill.
- “ 9.—Dedham and Brookline streets, Oak Hill.
- “ 12.—Park and Church streets, Newton.
- “ 13.—Sargent and Centre streets, Newton.
- “ 14.—Washington and Jewett streets, Newton.
- “ 15.—Engine house No. 1, Newton.
- “ 21.—Hook-and-Ladder No. 1, Washington street, Newtonville.
- “ 23.—Washington and Walnut streets, Newtonville.
- “ 24.—Police Station, North Village.
- “ 31.—Waltham and Washington streets, West Newton.
- “ 32.—River and Pine streets, West Newton.
- “ 35.—Engine house No. 2, West Newton.
- “ 41.—Charles street, Riverside.
- “ 52.—Poor Farm.
- “ 62.—Chestnut and Linden streets, Upper Falls.
- “ 72.—Crane's Machine Shop, Newton Highlands. (Private.)
- “ 73.—Engine house No. 3, Newton Centre.
- “ 81.—Ward street and Waverley avenue, Chestnut Hill.

Second and General Alarms will be given by order of the Chief or Assistant only.

ENGINE ONE.

HOUSE, WASHINGTON, BELOW CENTRE ST., WARD 7.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
F. E. Judkins.	Engineer.	34	2	Engineer.	Engine House.	\$900 00
F. Harrington.	Driver.	26	73	Driver.	Engine House.	700 00
H. C. Lindley.	Fireman.	29	4	Painter.	Engine House.	100 00
W. H. Park, Jr.	Foreman.	34	5	Provisions.	Centre St.	80 00
C. E. F. Ross.	Ass't do.	38	12	Wheelwright.	Engine House.	65 00
O. F. Hamlin.	Clerk.	24	9	Mason.	Channing St.	65 00
O. R. Evans.	Hoseman.	38	86	Painter.	Fayette St.	60 00
C. A. Estabrook.	"	29	7	Grocer.	Jefferson St.	60 00
G. R. Ashton.	"	34	11	Paper Hanger.	Avon Place.	60 00
G. S. Holmes.	"	25	13	Carpenter.	Engine House.	60 00
Chas. Boulton.	"	28	16	Carpenter.	Winthrop Ave.	60 00
D. C. Graves.	"	21	15	Printer.	Carlton St.	60 00
P. Hoseason.	"	24	8	Car'age Paint'r	Engine House.	60 00
E. Pike, Jr.	"	24	6	Gas Fitter.	Washington St	60 00

The engine in charge of this company is a double pump, first-class, built by Hunneman & Co., of Boston, in 1867. Placed in service in 1868.

Diameter of steam cylinder,	. . .	7 $\frac{1}{4}$ inches.
Length of stroke,	. . .	8 "
Diameter of pumps,	. . .	4 $\frac{1}{4}$ "
Length of stroke,	. . .	8 "

When worked to full capacity will discharge 800 gallons per minute.

PROPERTY IN CHARGE OF ENGINE COMPANY No. 1.

Engine Room.

1 steam fire engine (complete),	4 lanterns,
1 horse hose-carriage,	3 oil cans,
6 arm chairs,	1 vise,
3 pr. monkey wrenches,	1 life rope,
2 pr. pipe tongs,	2 play pipes,
1 breast drill,	1 pr. steps,
1 hammer,	2 hydrant connections,
1 Stillson wrench,	3 whips,
50 ft. $\frac{3}{4}$ inch rubber hose,	2 Johnson pumps,
1 pr. lead bars,	2 chamois,
2 single "	3 sponges,
15 fire hats,	2 brooms,
16 overcoats,	1 dustpan and brush,
8 pr. spanners,	1 suction rope.

Bunk Rooms.

6 iron bedsteads,	1 dry sink,
6 hair mattresses,	2 stands,
6 husk “	11 chairs,
6 spreads (white),	2 tables,
12 wool blankets,	2 carpets,
17 sheets,	1 oil carpet,
14 pillow slips.	6 rugs,
10 pillows,	1 carpet sweeper,
4 towels,	10 cuspadores.
1 bureau,	

Stable.

3 horses,	1 scraper,
3 sets double harness,	1 harness pan,
1 single “	1 extra saddle,
1 B. lead “	4 Micker bridles,
7 collars (4 inferior),	1 pair traces,
5 “ (worthless),	1 halter,
4 blankets,	4 surcingles,
1 curry comb,	1 shaft girt,
1 card,	2 martingales,
1 mane brush,	6 straps,
2 brooms.	1 clipping comb and shears,
1 pitch fork,	1 harness tub,
1 stall hook,	1 pr. hooks,
5 hitch straps,	3 collar weights and hooks.
2 water pails,	

Basement.

1 ash barrel,	12 tin dippers,
1 hose oiler,	1 tin barrel soap,
1 cooking stove,	1 washtub,
1 heater,	2000 ft. $2\frac{1}{2}$ inch leather hose,
4 coal boxes,	(poor order.)
2 shovels,	

Storeroom.

1 supply wagon,	1 pole,
1 pung,	2 tons Cannel coal.

ENGINE TWO.

HOUSE, WASHINGTON ST., OPP. LINCOLN PARK, WARD 3.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
R. S. Cummings.	Engineer.	30	17	Engineer.	Engine House.	\$900 00
C. L. Berry.	Driver.	27	19	Driver.	Engine House.	700 00
M. J. Crowley.	Fireman.	26	18	Painter.	Engine House.	100 00
G. H. Haynes.	Foreman.	41	21	Carpenter.	Cherry St.	80 00
F. H. Humphrey.	Ass't do.	33	23	Hardware.	Henshaw St.	65 00
F. H. Barrows.	Clerk.	33	30	Salesman.	Washington St	65 00
J. Q. A. Hawkes.	Hoseman.	54	26	Painter.	Webster St.	60 00
C. V. Knowles.	"	33	29	Painter.	Washington St	60 00
H. A. Waterhouse	"	23	24	Painter.	Engine House.	60 00
F. T. Burgess.	"	24	22	Plumber.	Engine House.	60 00
W. A. Whittaker.	"	33	20	Painter.	Washington St	60 00
W. F. Rand.	"	25	28	Wheelwright.	Webster St.	60 00
C. A. Cole.	"	35	27	Blacksmith.	Washington St	60 00
C. A. Needham.	"	21	25	Painter.	Engine House.	60 00
Walter M. Lucas.	"	22	31	Carpenter.	Hunter St.	60 00

The engine in charge of this company is a double pump, second class, built by the Amoskeag Manufacturing Company, Manchester, N. H., 1871, placed in service in 1872.

Diameter of steam cylinder,	6 $\frac{7}{8}$ inches.
Length of stroke,	8 "
Diameter of pumps,	4 $\frac{1}{8}$ "
Length of stroke,	8 "

When worked to its full capacity, will discharge 700 gallons per minute.

INVENTORY OF PROPERTY IN CHARGE OF ENGINE
COMPANY No. 2.*Engine Room.*

1 steam fire engine (comp'e),	11 cuspadores,
1 horse hose carriage "	4 nozzles,
1850 ft. leather hose,	1 vise,
1150 ft. cotton hose,	1 clock;
50 ft. $\frac{3}{4}$ hose,	1 pot (water),
15 fire hats,	1 drinking tank,
17 woolen coats,	1 Johnson pump,
2 prs. steps,	1 shovel,
2 door mats,	1 poker,
1 jack,	1 jack screw,
3 leading hose pipes,	1 hammer,
3 hydrant wrenches,	1 brass saw,
2 hydrant valves,	2 monkey wrenches,
1 doz. arm chairs,	3 stuff-box wrenches,
1 set lead bars,	1 wheel-cap wrench.
1 table,	

Bunk Rooms.

6 iron bedsteads,	6 bolsters,
3 tables,	36 sheets and pillow cases,
2 bureaus,	13 chairs,
6 hair mattresses,	carpets,
6 husk “	10-inch gong.

Basement.

1 hose oiler,	2 copper boilers,
1 tank,	1 cook stove,
1 wheelbarrow,	1 copper kettle,
45 tin dippers,	2 tons Cannel coal.
1 ash barrel,	

Stable.

3 horses,	9 blankets,
4 double harnesses,	1 curry comb,
2 single “	3 brushes,
3 collars,	3 collar weights and hooks.

Store Room.

1 wagon,	1 piece suction,
1 pung,	1 extra whiffletree,
8 spare wheels (engine & hose),	4 hooks and chains.
4 bushel baskets,	

ENGINE THREE.

HOUSE, WILLOW ST., BETWEEN CENTRE AND SUMNER, WARD 6.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
A. D. Colby.	Engineer.	48	32	Engineer.	Engine House.	\$900 00
E. C. Holmes.	Driver.	31	33	Driver.	Engine House.	700 00
A. C. Jewett.	Fireman.	21	34	Painter.	Engine House.	100 00
H. G. Sawyer.	Foreman.	32	36	Clerk.	Willow St.	80 00
G. W. Ulmer.	Ass't do.	29	44	Fire Al'm Opr.	Lyman St.	65 00
C. A. Peck.	Clerk.	22	46	Painter.	Engine House.	65 00
S. F. Chadbourne	Hoseman.	27	41	Carpenter.	Willow St.	60 00
C. B. Garey.	“	30	42	Carpenter.	Lyman St.	60 00
Jno. Davidson.	“	26	40	Coachman.	Beacon St.	60 00
A. J. Roach.	“	21	38	Clerk.	Warren St.	60 00
W. Bliss.	“	23	39	Painter.	Willow St.	60 00
G. F. Richardson	“	21	37	Clerk.	Lyman St.	60 00
Van Martin.	“	33	45	Carpenter.	Centre St.	60 00
Lac Martin.	“	27	43	Carpenter.	Centre St.	60 00
A. J. English.	“	30	35	Carpenter.	Centre St.	60 00

The engine in charge of this company is a double pump, second class, built by the Amoskeag Manufacturing Company, Manchester, N. H., 1874 ; placed in service March, 1875.

Diameter of steam cylinder,	. . .	6 $\frac{7}{8}$ inches.
Length of stroke,	. . .	8 "
Diameter of pumps,	. . .	4 $\frac{1}{4}$ "
Length of stroke,	. . .	8 "

When worked to its full capacity, will discharge 800 gallons per minute.

INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

Engine Room.

1 steam fire engine (complete),	1 extra engine grate,
1 horse hose carriage,	1000 ft. cotton hose,
1 set lead bars,	1050 ft. leather hose.
2 play pipes,	50 ft. $\frac{3}{4}$ inch rubber hose,
1 Johnson pump,	1 zinc pan,
3 leading hose pipes,	15 lbs. waste,
15 fire hats,	2 hydrant gates,
15 coats,	2 hydrant wrenches,
1 dust pan and brush,	1 water pail.
2 shovels,	4 door mats,
2 bars,	2 W. brushes,
1 poker,	50 ft. $\frac{3}{4}$ rope,
1 jack screw,	1 20-ft., 1 14-ft. flags,
13 pairs spanners,	1 8-in. door gong,
1 wagon jack,	1 indicator.

Tool Room.

2 die plates,	2 Stillson wrenches,
10 dies,	5 files,
2 taps,	1 vise,
2 pipe cutters,	1 hammer,
6 cold chisels,	6 drills,
1 monkey wrench,	1 ratchet drill.

Bunk Rooms.

6 iron bedsteads,	5 comforters,
10 mattresses,	6 spreads,
3 hair bolsters,	4 chairs,
6 pillows,	2 tables,
18 sheets,	2 bureaus,
12 pillow cases,	2 carpets.
6 pairs blankets,	

Parlor.

1 table,	1 rug,
1 mirror,	1 carpet.
18 chairs,	

Basement.

Half barrel oil,	1 hose oiler,
2 galls. sperm oil,	1 cook stove and boiler,
1 5 gall. can,	4 hose brushes,
1 2 " "	15 tin dippers,
1 " "	5 tin pans,
1 2½ " "	1 shovel,
1 axe,	1 poker.

Stable.

3 horses,	8 street blankets,
2 sets double harness,	2 fly blankets,
2 single " "	2 curry combs,
1 pair traces,	2 brushes,
1 single "	1 mane brush,
1 set lead harness,	1 card,
7 halter bridles,	1 quart measure,
2 blind " "	1 stall hook,
2 pairs lead traces,	2 forks,
1 heavy saddle,	4 brooms,
1 light " "	1 pail,
1 pair hames,	1 chamois.
2 halter straps,	3 collar weights and hooks.

Store Room.

1 wagon, complete,	1 set spare wheels,
3 tons Cannel coal.	

HOOK-AND-LADDER ONE.

HOUSE, WASHINGTON ST., OPP. WALKER, WARD 2.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
Chas. Murphy.	Driver.	23	59	Driver.	Truck House.	\$700 00
W. S. Higgins.	Foreman.	31	62	Carpenter.	Washington St.	80 00
W. H. Dyer.	Ass't do.	26	63	Clerk.	Truck House.	65 00
L. H. Cranitch.	Clerk.	33	60	Painter.	Washington St.	65 00
R. F. Cranitch.	Ladd'rm'n	24	64	Painter.	Truck House.	60 00
J. H. Gilman.	"	29	69	Milkman.	Washington St.	60 00
J. H. Williams.	"	42	66	Painter.	Linwood St.	60 00
O. Dow.	"	35	86	Plumber.	Murray St.	60 00
F. B. Sisson.	"	40	81	Carpenter.	Washington St.	60 00
J. E. Watson.	"	25	70	Contractor.	Allston St.	60 00
A. O. Davis.	"	20	68	Clerk.	Truck House.	60 00
B. F. Barlow.	"	32	65	Blacksmith.	Parson St.	60 00
J. Murphy.	"	30	61	Teamster.	Murray St.	60 00

The truck in charge of this company was built by Bulkley & Merritt of New York, and rated first-class. Placed in service, September, 1879.

It carries a total of 314 feet of ladders, which were made by the Extension Ladder Company of Bangor, Me., and are complete in every respect.

Weight of truck, when ready for service, 5000 lbs.

INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

Truck Room.

1 two-horse truck, complete,	1 monkey wrench,
3 blankets,	1 jack,
1 hammer,	1 bell,
1 pair lead bars,	1 door gong,
4 Johnson pumps,	1 broom and dust pan,
13 coats,	1 feather duster,
13 fire hats,	2 mop handles,
1 single whippetree,	2 scrub brushes,
50 $\frac{3}{4}$ rubber hose,	1 clock,
7 chairs,	1 mirror,
4 cuspadores,	1 drinking tank.
3 mats,	

Bunk Rooms.

36 yards carpets,	5 pillows,
4 iron bedsteads,	4 chairs,
4 hair mattresses,	3 curtains,
4 excelsior “	4 cuspadores,
6 double blankets,	1 bureau,
6 comforters,	1 mirror.
4 spreads,	

Parlor.

30 yards carpet,	13 chairs,
1 table,	4 curtains.

Basement.

1 cook stove and boiler (old),	28 dippers.
1 force pump (old),	

Stable.

2 horses,	1 curry comb and brushes,
1 double harness,	1 pair pole straps,
1 lead harness,	2 collar weights and hooks.

HOSE FOUR.

HOUSE, WASHINGTON ST., OPP. WALKER, WARD 2.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
E. C. Waterhouse	Foreman.	24	52	Carpenter.	Hose House.	\$80 00
J. Fontaine.	Clerk.	27	47	Shoemaker.	Wash'n and Walnut.	65 00
F. A. Dexter.	Hoseman.	21	50	Clerk.	Hose House.	60 00
J. F. Horrigan.	"	34	48	Painter	Washington St	60 00
J. Deery.	"	21	49	Lamp Dept.	Hose House.	60 00
E. P. Besse.	"	39	51	Carpenter.	Brookside Ave	60 00

The carriage in charge of this company was built by Hunneman & Co., of Boston, 1874, and placed in service the same year.

INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

Carriage Room.

1 horse hose carriage,	2 leading hose pipes,
700 feet leather hose,	6 hose straps,
800 " cotton hose,	1 axe,
6 fire hats,	2 head-lights,
6 coats,	1 pair lanterns,
2 hydrant valves,	2 hydrant wrenches,
4 lanterns,	1 Johnson pump.
6 pairs spanners,	

Bunk Rooms.

24 yards carpet,	2 single bedsteads,
3 hair mattresses.	1 double "
2 excelsior "	5 double blankets,
4 comforters,	3 spreads,
4 pillows,	2 curtains,
2 cuspadores,	4 chairs,
1 mirror,	12 pillow cases,
1 bureau,	7 towels.

Parlor.

30 yards carpet,	1 table.
7 chairs,	

Stable.

1 collar weight and hook,	1 harness,
1 horse,	1 street blanket.

HOSE FIVE.

HOUSE, AUBURN ST., ABOVE MELROSE, WARD 4.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
W. F. Soule.	Foreman.	41	53	Carpenter.	Melrose St.	\$80 00
J. F. Kimball.	Clerk	32	54	Carpenter.	Auburn St.	65 00
C. H. Hall.	Hoseman.	30	55	Painter.	Central St.	60 00
J. C. Merrill.	"	23	56	Awning Mak'r.	Hose House.	60 00
C. A. McCullom.	"	29	57	Carpenter.	Grove St.	60 00
A. H. Richards.	"	24	58	Clerk.	Woodland Av.	60 00

The carriage in charge of this company was built in Philadelphia, 1867. Placed in service, October, 1878.

INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

Carriage Room.

1 horse hose carriage,	35 tin dippers,
1 pung,	1 monkey wrench,
1 street blanket,	2 hose brushes,
6 hats,	13 chairs,
6 coats,	1 broom,
5 pairs spanners,	1 duster,
1 Johnson pump,	3 ladders,
2 hydrant valves,	2 hooks,
1050 feet leather hose,	1 sponge,
50 " $\frac{3}{4}$ rubber hose,	3 $\frac{1}{2}$ dozen spoons.
1 pair lanterns,	

Bunk Rooms.

Carpets,	2 iron bedsteads,
2 husk mattresses,	2 hair mattresses,
2 pillows,	4 pillow cases,
2 bureaus,	2 water stands,
2 bowls,	2 pitchers,
1 curtain,	8 sheets,
2 coverlids,	4 blankets,
2 spreads,	4 cuspadores.

Parlor.

Carpet,	6 chairs,
3 curtains,	1 table.

Stable.

1 horse,	1 collar weight and hook,
1 fly-blanket,	1 harness.

HOSE SIX.

HOUSE, WASHINGTON ST., ABOVE WALES, WARD 4.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
F. B. Reed.	Foreman.	32	74	Provisions.	Washington St.	\$80 00
W. Leonard.	Clerk.	20	77	Machinist.	Hose House.	65 00
B. Early.	Hoseman.	22	75	Machinist.	Hose House.	60 00
G. A. Reed.	"	30	79	Brakeman.	Washington St.	60 00
J. Kenny.	"	21	78	Carder.	Beacon St.	60 00
R. H. Moulton.	"	34	76	Machinist.	Wales St.	60 00

The carriage in charge of this company was built by Hunneman & Co., of Boston, in 1877, and placed in service the same year.

INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

Carriage Room.

1 horse hose carriage,	1 Johnson pump,
1 pung,	1 hydrant valve,
1500 ft. leather hose (fair order),	6 chairs,
7 hats,	1 clock,
6 coats,	50 feet $\frac{3}{4}$ rubber hose,
6 pairs spanners,	1 table.

Bunk Rooms.

4 iron bedsteads,	4 excelsior mattresses,
4 hair mattresses,	8 sheets,
8 pillow cases,	4 pillows,
4 coverlids,	4 comforters,
8 blankets,	4 chairs,
carpets,	1 gas torch.
2 curtains,	

Parlor.

1 carpet,	14 chairs,
1 table,	3 curtains.

Stable.

1 horse,	1 collar weight and hook,
2 blankets (1 fly).	1 harness.

HOSE SEVEN.

HOUSE, PETTEE ST., REAR PROSPECT SCHOOL, WARD 5.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
W. S. Cargill.	Foreman.	32	82	Carpenter.	High Street.	\$80 00
H. A. Smith.	Clerk.	25	84	Carpenter.	Hose House.	65 00
J. E. Trowbridge	Hoseman.	44	81	Hardware.	High Street.	60 00
R. H. Hodgdon.	"	29	83	Machinist.	High Street.	60 00
J. Doole.	"	23	85	Machinist.	Hose House.	60 00
J. T. Thomason.	"	31	80	Clerk.	Chestnut St.	60 00

The carriage in charge of this company was built by Hunneman & Co., of Boston, 1878. Placed in service, January, 1879.

INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

Carriage Room.

1 horse hose carriage,	6 pairs spanners,
1 pung,	1 hydrant valve,
1 street blanket,	1 Johnson pump,
6 fire hats,	50 feet $\frac{1}{2}$ rubber hose,
6 coats,	1 chamois,
6 chairs,	7 curtains,
1 table,	1600 ft. leather hose (fair order),
1 clock,	1 ash barrel,
1 duster,	1 5-gall. can.

Bunk Rooms.

2 iron bedsteads,	2 spreads,
2 hair mattresses,	2 bureaus,
2 husk "	1 mirror,
6 sheets,	4 chairs,
6 pillow cases,	2 carpets.
2 double blankets,	

Parlor.

carpet,	1 table,
6 chairs,	4 curtains.
3-light chandelier,	

Stable.

1 horse,	1 curry comb,
1 harness,	2 brushes,
1 stable blanket,	1 collar weight and hook.
1 fly "	

Record of Fires and Alarms

Day of Week.	DATE.	HOUR.	BOX.	OWNER PROP'TY.	OCCUPANTS.	LOCATION.	LOSS.
	1879.						
Mon.	Jan. 27.	12.45 a.m.	Still.			Waltham.	
Sat.	Feb. 22.	11.35 a.m.	4	W. Harding.	W. Harding.	Central St.	Trifling.
Sat.	" 22.	11.15 p.m.	32	D. McBride.	Unoccupied.	Auburndale Ave.	\$300.00
Fri.	Mar. 7.	3 a.m.	Still.			Grantville.	
Thur.	" 20.	9.35 a.m.	15	B. & A. Ry. Co.	B. & A. Ry. Co.	Centre St.	50.00
Tues.	" 25.	4.05 p.m.	52	T. Quilty.	T. Quilty.	Beacon St.	1,200.00
Sun.	Apr. 6.	6.52 p.m.	7	Congreg'l Church.	Church.	Lincoln & Hartf'd Sts.	50.00
Sun.	" 13.	1.40 a.m.	14	D. A. Massey.	Unoccupied.	Adams St.	598.00
Tues.	" 23.	8.26 a.m.	73	Frank Morse.	Frank Morse.	Morton Place.	900.00
Wed.	" 23.	3 p.m.	Still.			Watertown.	
Wed.	" 23.	4.30 p.m.	Still.			Beacon St.	
Sat.	" 26.	3.03 p.m.	73	Dennis Donohue.	D. Donohue.	Homer St.	Trifling.
Sat.	" 26.	3.30 p.m.	Still.			Pine Grove Ave.	
Thur.	May 1.	8.36 a.m.	73	Horace Cousins.	W. Bemis.	Station St.	50.00
Tues.	" 6.	9.30 p.m.	Still.			Morton & Mill Sts.	
Tues.	" 6.	11.30 p.m.	Still.	M. Springer.	M. Springer.	Arlington & Pembroke	20.00
Wed.	" 7.	1.35 a.m.	4	Amina Littlefield.	Amina Littlefield.	Rowe St.	2,200.00
Sat.	" 10.	8.45 a.m.	32	Jno. Scully.	Jno. Scully.	Auburndale Ave.	10.00
Sat.	" 10.	11.30 a.m.	Still.			Beacon St.	
Sat.	" 10.	3.15 p.m.	Still.			Highland St.	
Sat.	" 10.	5.15 p.m.	23			Otis St.	
Mon.	" 12.	9.38 a.m.	7			Winchester St.	
Sun.	" 18.	9.55 p.m.	14	B. & A. Ry. Co.	Smead & Co.	Church St.	110.00
Sat.	Jne. 14.	3.10 p.m.	Still.			Brighton.	
Sun.	" 15.	10.15 a.m.	15	H. Van Bushkirk.	H. Van Bushkirk.	Washington St.	20.00
Thur.	" 22.	1.40 a.m.	24	Timothy Mack.	Timothy Mack.	Watertown St.	5.00
Sat.	July 5.	3 a.m.	24	Timothy Mack.	Timothy Mack.	Watertown St.	150.00
Sun.	" 6.	1.40 a.m.	15			Brighton.	
Fri.	" 11.	9.35 p.m.	15	B. & A. Ry. Co.	Unoccupied.	Centre St. Court.	Trifling.
Sat.	" 12.	2.30 p.m.	Still.	B. & A. Ry. Co.	B. & A. Ry. Co.	Washington St.	Trifling.
Mon.	" 14.	11.10 a.m.	Still.	S. M. Bond.	S. M. Bond.	Centre St.	25.00
Sat.	" 26.	5.25 a.m.	15	Jno. Grace.	Unoccupied.	Pearl St.	250.00
Thur.	Aug. 7.	1.45 p.m.	14	Jno. Coffee.		Crafts St.	25.00
Fri.	" 11.	9.55 p.m.	15	Frank Davis.	Unoccupied.	Washington St.	350.00
Fri.	" 11.	1.40 p.m.	Still.	Methodist Ch.	Sheds.	Wesley St.	Trifling.
Tues.	" 12.	11.35 p.m.	15	Frank Hyde.	Frank Hyde.	Centre St.	3,500.00
Wed.	" 13.	1.30 a.m.	13	J. M. Weston.	J. M. Weston.	Franklin St.	Trifling.
Fri.	" 15.	2 a.m.	Still.	Frank Hyde.	Frank Hyde.	Centre St.	Trifling.
Mon.	Sept. 8.	3.45 p.m.	52	Mrs. E. J. Collins.	Jas. Scott.	Rear Beacon St.	250.00
Fri.	" 19.	3.05 a.m.	15	Mrs. Jones.	Unoccupied.	Elmwood St.	5.00
Thur.	" 9.	10.04 p.m.	73				
Wed.	" 22.	12.40 p.m.	15	Mass. Life Ins. Co.	Unoccupied.	Homer St.	5,455.10
Sat.	" 25.	10.40 p.m.	Still.	G. N. Endicott.	G. N. Endicott.	Hyde Ave.	100.00
Sat.	Nov. 4.	4.50 p.m.	15	Geo. Lord.	Unoccupied.	Park St.	
Sun.	" 9.	11.10 p.m.	Still.			Park and Sargent.	Trifling.
Fri.	" 14.	10 p.m.	Still.			Auburn St.	
Sat.	" 15.	1.30 p.m.	Still.	N. T. Allen.	W. P. Clark.	Cherry St.	Trifling.
Mon.	" 17.	10 a.m.	Still.	E. F. Waters.	Smart Maxwell.	Cherry St.	Trifling.
Mon.	Dec. 1.	3 p.m.	73	Leonard Hyde.		Homer St.	Trifling.
Fri.	" 5.	3.15 p.m.	Still.	C. W. Sanderson.	Michael Bepple.	Dudley St.	350.00
Mon.	" 8.	10.44 p.m.	15	O. W. Turner.	F. E. Wallingford.	Tremont & Waverly Av	45.00
						Washington St.	Trifling.
Grand Total.....							\$16,018.10

Total Loss over and above Insurance paid.....

From January 1, 1879, to December 31, 1879.

INSUR'CE	INS. PAID.	STYLE OF BUILDING.	CAUSE OF FIRE.	APPARATUS PRESENT.
\$2,000.00		2½ st'y wood dwelling.	Call for assistance.	Engine 2 and carriage.
1,200.00	300.00	1½ st'y wood dwelling.	Thawing water pipes.	Engine 2, hose 4, truck 1.
			Incendiary.	Engine 2, hose 4, truck 1.
10,000.00	50.00	1 st'y wood station.	Call for assistance.	Hose 6.
1,200.00	1,200.00	2 st'y wood dwelling.	Defective furnace.	Engine 1, hose 4, truck 1.
12,000.00	50.00	1 st'y wood church.	Defective flue.	Engine 2, hose 6, 7, truck 1.
1,000.00	598.00	2 st'y wood stable.	Gas jet.	Engine 3, hose 7, truck 1.
600.00	600.00	2 st. wd. greenh. & stable.	Incendiary.	Engine 1, hose 4, truck 1.
			Defective flue.	Engs. 1, 3, hose 4, 7, truck 1.
			Call for assistance.	Engine 1 and carriage.
			Brush fire.	Members Engine 3.
		2 st'y wood dwelling.	Burning chimney.	Engine 3, hose 7, truck 1.
			Brush fire.	Hose 6.
		1 st'y wood paint store.	Oil rags.	Engine 3, hose 7, truck 1.
			Brush fire.	Members Engine 3.
7,000.00	20.00	3 st'y wood dwelling.	Defective flue.	Engine 1.
4,000.00	2,200.00	2½ st'y wood dwelling.	Incendiary.	Eng. 2, hose 4, 5, 6, truck 1.
400.00	10.00	1 st'y wood dwelling.	Defective flue.	Engine 2, hose 4, truck 1.
			Brush fire.	Members Engine 3.
			Brush fire.	Members Engine 2.
			Brush fire.	Engs. 1, 2, hose 4, truck 1.
			Brush fire.	Engine 3, hose 7, truck 1.
75.00	75.00	Freight car—hay.	Incendiary.	Engine 1, hose 4, truck 1.
			Call for assistance.	Engine 1.
800.00	20.00	2½ st'y wood dwelling.	Child'n play'g matches.	Engine 1, hose 4, truck 1.
		1 st'y wood shoe-shop.	Incendiary.	Engs. 1, 2, hose 4, truck 1.
1,200.00	150.00	2½ st'y wood dwelling.	Smoking in bed.	Engs. 1, 2, hose 4, truck 1.
			Call for assistance.	Engines 1, 3, hose 4.
		2½ st'y wood dwelling.	Locomotive sparks.	Engine 1, hose 4, truck 1.
		1 st'y wood flag-station.	Locomotive sparks.	Members Engine 1.
		3 st'y wood store.	Use of benzine.	Members Engine 1.
600.00	250.00	2½ st'y wood dwelling.	Incendiary.	Engine 1, hose 4, truck 1.
		2 stacks straw.	Child'n play'g matches.	Engine 1, hose 4, truck 1.
3,000.00	350.00	3 st'y wood dwelling.	Incendiary.	Engine 1, hose 4, truck 1.
		1 st'y wood sheds.	Supposed smoking.	Members Engine 1.
3,000.00	3,000.00	2 st'y wood stables.	Incendiary.	Engine 1, hose 4, truck 1.
		2½ story wood dwelling.	Sparks from above fire.	Engs. 1, 2, 3, hose 4, 7, truck 1.
			Rekindling of ruins.	Members Engine 1.
		1 st'y wood dwelling.	Child'n play'g matches.	Engine 2, hose 6, 7, truck 1.
		2 st'y wood stable.	Incendiary.	Engine 1, hose 4, truck 1.
8,000.00	5,455.10	3 st'y wood dwelling.	Incendiary.	Engs. 1, 3, hose 4, 7, truck 1.
10,000.00	100.00	3 st'y wood dwelling.	Incendiary.	Engine 1, hose 4, truck 1.
			Smoke from furnace.	Members Engine 1.
		3 st'y wood dwelling.	Defective flue.	Engine 1, hose 4, truck 1.
			Brush fire.	Hose 5.
			Spark from lamp.	Extinguished by citizens.
		2 st'y wood dwelling.	Smoking in bed.	Extinguished by citizens.
		1 st'y wood dwelling.	Rags stuffed in flue.	Members truck 1.
		1 st'y wood dwelling.	Child'n play'g matches.	Engine 3, hose 7, truck 1.
45.00	45.00	Wagon loaded with hay.	Set by boys.	Engine 1.
6,000.00		1 st'y wood stable.	Explos'n kerosene lamp	Engine 1, hose 4, truck 1.
\$72,120.00	\$14,473.10			

\$1,545.10

SERVICE PERFORMED BY THE DEPARTMENT DURING THE YEAR.

No. ft. Hose laid.	Ladders.	Miles Travelled.	Hrs. in Service.
28,450 feet.	833 feet.	275 miles.	71 hours.

HOSE IN SERVICE, AND HOW DISTRIBUTED.

COMPANIES.	LEATHER.	AMERICAN JACKET.	EUREKA.	LENGTH OF SERVICE.
Engine One.	2,000 feet.	1,150 feet.	1,000 feet.	Five years.
Engine Two.	1,850 feet.			Seven years.
Engine Two.				Seven months.
Engine Three.	1,000 feet.			Seven years.
Engine Three.				Two years 8 mos.
Hose Four.	900 feet.			Nine years.
Hose Four.				Two years 8 mos.
Hose Five.	1,150 feet.	1,150 feet.	800 feet.	Six years.
Hose Six.	1,500 feet.			Seven years.
Hose Seven.	1,600 feet.			Seven years.
Total,	10,000 feet.	1,150 feet.	1,800 feet.	
Grand Total,				12,950 feet.

ALARMS PER YEAR SINCE 1874.

1874.....	.31
1875.....	.40
1876.....	.64
1877.....	.37
1878.....	.47
1879.....	.32

LOCATION OF HYDRANTS.

WARD ONE.

Bellevue st. and Newtonville ave.	Pearl and Jewett sts.
Bellevue and Centre St.	Pearl and Waban sts.
Bellevue, 495 ft. W. Centre st.	Richardson and Church sts.
Bellevue st. and Maple pl.	Richardson, 455 ft. W. Centre st.
Boyd and Jewett sts.	School and Waban sts.
Bennington and Centre sts.	Waban park,
Church st. and Maple pl.	Walnut park,
Fayette and Gardner sts.	Washington, 400 ft. W. Walnut park.
Hovey and Washington sts.	Washington and Bacon sts.
Jewett and Washington sts.	Watertown and Pearl sts.
Newtonville ave. and Oak st.	Wesley and W. Centre sts.
Newtonville ave., 130 ft. E. Howard st.	

WARD TWO.

Adams st., 120 ft. N. Washington st.	Highland ave., 470 ft. W. Walnut st.
Adams st., 400 ft. N. Clinton st.	Highland ave.
Adams and Watertown sts.	Lowell and Walnut sts.
Brooks ave. and Washington st.	Lowell and Edinboro' sts.
Bowers st., 675 ft. E. Walnut st.	Lowell and Washington sts.
Bridge and Chandler sts.	Newtonville ave. and Harvard st.
Bridge, 465 ft. N. Chandler st.	Newtonville ave., 530 ft. E. Walnut st.
Bridge and California sts.	Newtonville ave. and Walnut st.
Brooks pl., 600 ft. N. Washington st.	Otis and Walnut sts.
Brookside ave. and Washington st.	Otis st. and Forest ave.
Chapel and Watertown sts.	Otis and Murray sts.
Chapel and Dalby Mills.	Walker and Washington sts.
Cabot st., 745 ft. E. Walnut.	Walker, 475 ft. N. Washington st.
Central ave. and Washington sts.	Walnut, 340 ft. S. Cabot st.
Central ave. and Turner sts.	Walnut and Washington sts.
Central ave. and Prescott sts.	Walnut, 540 ft. N. Washington st.
Court st., 550 ft. Central ave.	Walnut st., 330 ft. S. Crafts st.
Crafts and Linwood sts.	Washington and Harvard sts.
Crafts and California sts.	Washington and Crafts sts.
California, 700 ft. E. Crafts st.	Washington park, 500 ft. E. Walnut st.
Cross and Washington sts.	Watertown, 310 ft. W. Walnut st.
Forest ave., 500 ft. S. Otis st.	Watertown and Crafts sts.
Harvard and Washington park.	Washington and Parsons st.
Highland ave. and Walnut st.	

WARD THREE.

Alpine st., 800 ft. E. Hillside av.	Margin and Putnam sts.
Auburn and Washington sts.	Mt. Vernon and Hillside ave.
Auburn and Crescent sts.	Mt. Vernon and Greenwood ave.
Chestnut and Washington sts.	Otis st. and Hillside ave.
Elm and Washington sts.	Otis, 500 ft. E. Hillside ave.
Fountain and Highland sts.	Oak ave., 500 ft. N. Webster st.
Eden, 300 ft. N. Watertown sts.	Prospect and Washington sts.
Highland and Washington sts.	Perkins and Lander sts.
Highland and Hunter sts.	River and Henshaw sts.
Highland and Chestnut sts.	River and Elm sts.
Hillside ave. and Chestnut sts.	River st. and Franklin School.

WARD THREE. (*Continued.*)

River and Pine sts.	Washington st. and Lucas ave.
Temple and Highland sts.	Watertown and Cross st.
Temple and Putnam sts.	Watertown, 260 ft. E. Davis ct.
Temple and Prospect sts.	Webster and Waltham sts.
Waltham and Washington sts.	Webster and Cherry sts.
Waltham, 500 ft. N. Eden st.	Webster st. and Oak ave.
Waltham and Derby sts.	Webster st. and Webster pl.
Waltham and Pleasant sts.	Webster pl. and Webster park,
Waltham and Crafts sts.	Winthrop and Putnam sts.
Washington, 600 ft. W. Cross st.	Winthrop and Shaw sts.
Washington st. and Davis ct.	

WARD FOUR.

Ash and Melrose sts	Hancock and Central sts.
Ash and Seaverns sts.	Islington ave. and Malvern sts.
Ash st. and the Park.	Lexington and Auburn sts.
Auburn and Greenough sts.	Lexington, 860 ft. N. Auburndale av.
Auburn st., 240 ft. W. Maple st.	Lexington and Freeman sts.
Auburn and Washington ave.	Melrose and Seaverns sts.
Auburn and Franklin sts.	Foot Melrose st.
Auburndale ave., 540 ft. W. Rowe st.	Oakland and Auburn sts.
Beacon, 1180 ft. E. Washington st.	Pine Grove ave.
Beacon st. and Almshouse.	Rowe and Auburn sts.
Beacon, 300 ft. W. Woodward st.	Rowe st. and R. R. Crossing.
Concord st., 300 ft. N. R. R. Crossing.	Seminary ave. and Woodland ave.
Concord and Washington sts.	Vista ave., 540 ft. S. Woodland ave.
Central, 340 ft. W. Fern st.	Wales st. and Needham line.
Central and Woodland ave.	Washington, 300 ft. E. Grove st.
Central, 500 ft. E. Woodland ave.	Washington and Hamilton sts.
Charles st. and R. R. Station.	Washington and Wales sts.
Charles, 1000 ft. W. Auburn st.	Washington, 290 ft. E. Wales st.
Charles and Auburn sts.	Washington and Beacon sts.
Evergreen ave., 500 ft. S. Auburn st.	Washington, 650 ft. E. Beacon st.
Grove and Washington sts.	Washington, 1300 ft. E. Beacon st.
Grove, 500 ft. N. Washington st.	Washington st. and Aspen ave.
Grove, 1000 ft. N. Washington st.	Washington, 100 ft. E. Fuller st.
Grove and Cornell sts.	Washington and Greenough sts.
Grove and Woodland ave.	Wolcott st. and Wolcott park.
Grove st., 460 ft. N. Woodland ave.	Wolcott and Rowe sts.
Grove and Central sts.	Washington ave. and Auburn st.
Hawthorne ave. and Woodland ave.	Woodland ave. and Washington.
Hancock and Grove sts.	Woodland ave. and Maple st.
Hancock and Fern streets.	Woodland ave., 100 ft. W. Maple st.
Hancock and Woodland ave.	

WARD FIVE.

Boylston and Needham line.	Columbus and Lincoln sts.
Boylston and Chestnut sts.	Elliott, 265 ft. W. Chestnut st.
Boylston, 500 ft. E. High st.	Elliott and Oak sts.
Boylston and Hartford sts.	Elliott and Cottage sts.
Boylston and Centre streets.	Erie ave. and Bowdoin st.
Chestnut and Summer sts.	Forest and Columbus st.
Chestnut and Elliott sts.	Forest and Bowdoin sts.
Clark and Parker sts.	Hartford and Erie ave.
Clark and Centre sts.	High and Winter sts.

WARD FIVE. (*Continued.*)

High and Boylston sts.	Oak and Linden sts.
Lake ave. and Walnut st.	Pettee st., opp. Hose House 7.
Lincoln and Woodward sts.	Walnut and Centre sts.
Pumping station and Needham line.	Walnut, N. Forest st.
Needham st., 100 ft. E. pump'g stat'n.	Winchester and Hyde sts.
Oak st., 400 ft. E. Needham st.	Woodward and Boylston sts.
Oak st., 85 ft. N. Chestnut st.	Woodward and Chestnut sts.

WARD SIX.

Beacon st. and Beacon ct.	Hammond st., op. F.W. Johnson's.
Beacon and Crescent sts.	Hammond and Beacon sts.
Beacon and Centre sts.	Hammond st., op. Dr. Slade's.
Beacon st., 490 ft. W. Grant ave.	Hammond st., op. Daniel Stone's.
Beacon st., 2000 ft. E. Grant ave.	Hammond st., op. Chapel.
Cedar and Homer sts.	Hammond st. and R. R. bridge.
Cedar, 1500 ft. N. Homer st.	Homer, 150 ft. E. Cedar st.
Centre and Clinton pl.	Homer and Pleasant sts.
Centre and Homer sts.	Hyde and Centre sts.
Centre and Ward sts.	Knowles and Station sts.
Centre and Mill sts.	Parker, 630 ft. S. Cypress st.
Centre, 310 ft. N. Cotton st.	Pleasant, 465 ft. W. Centre st.
Centre, 610 ft. S. Sargent st.	Pleasant, 1000 ft. N. Beacon st.
Centre and Sargent sts.	Roger and Centre sts.
Chase st. and Institution ave.	South st., 480 ft. S. Ward st.
Chase and Station sts.	Station, 135 ft. E. Centre st.
Crescent and Centre sts.	Station and Beacon sts.
Crystal st. and Lake ave.	Sumner and Gibbs sts.
Cypress and Paul sts.	Ward, 570 ft. E. Sumner st.
Everett st.	Ward and Grant ave.
Elgin, 480 ft. E. Glen ave.	Ward st., 480 ft. E. Waverley ave.
Grafton and Homer sts.	Ward st. and Waban hill.
Lyman, bet'n Centre & Sumner sts.	Ward st., 550 ft. W. South st.
Maple ave.	Warren st. and Glen ave.
Homer and Walnut sts.	Willow and Centre sts.
Homer, 600 ft. E. Walnut sts.	Walnut st. and Cemetery gate.

WARD SEVEN.

Arlington st. and Waverley ave.	Park and Sargent sts.
Arlington and Pembroke sts.	Pearl and Bacon sts.
Centre and Mt. Ida sts.	Pearl and Linden sts.
Church and Centre sts.	St. James st., R. R. bridge.
Church and Eldredge sts.	Sargent and Hyde ave.
Church and Park sts.	Tremont and Pembroke sts.
Elmwood and Centre sts.	Tremont and Waverley ave.
Elmwood and Brook sts.	Vernon and Centre sts.
Franklin and Centre sts.	Vernon and Baldwin sts.
Franklin and Kenrick park.	Washington and Nonantum sts.
Franklin and Waverley ave.	Washington and Park sts.
Hunnewell park.	Washington, 190 ft. E. St. James st.
Jefferson and Williams sts.	Washington st. and Boston line.
Linden and Washington sts.	Washington st., 395 ft. E. Waverley ave.
Nonantum st., 110 ft. N. Orchard st.	Waverley ave. and Kenrick sts.
North Bend and Centre sts.	Waverley ave., 925 ft. S. Kenrick st.
Park and Vernon sts.	Waverley ave. and Cotton sts.
Park, 525 ft., S. Vernon st.	

LOCATION OF RESERVOIRS.

WARD ONE.

Washington st., op. School st.	Church and Richardson sts.
School and Pearl sts.	

WARD TWO.

Washington and Walnut sts.	Walnut and Lowell sts.
Washington park.	

WARD FOUR.

Central st., bet'n Grove & Maple sts.	Auburn and Melrose sts.
---------------------------------------	-------------------------

WARD FIVE.

High st., op. Elliott Hall.	Chestnut and Summer sts.
Pettee st.	Lincoln st.
Elliott, W. High st.	

WARD SIX.

Centre and Beacon sts.	Station and Glen sts.
Pelham st., W. Centre st.	

WARD SEVEN.

Church and Centre sts.	Kenrick park.
Centre st. and R. R. crossing.	Waverley ave. and Arlington st.
Nonantum sq.	Tremont and Park sts.
Franklin and Centre sts.	

REPORT
OF THE
COMMISSIONERS
FOR
DRAINAGE AND SEWERAGE,
INCLUDING
REPORT OF ENGINEER.



BOSTON:
PRESS OF W. L. DELAND & SON,
Congress Building, 4 Post Office Square.
1880.

REPORT

OF THE

Commissioners for Drainage and Sewerage.

*To the Honorable, the Mayor, Board of Aldermen,
and Common Council of the City of Newton.*

The undersigned, Commissioners for Drainage and Sewerage for the City of Newton, submit this report of their doings in obedience to the orders and directions of the City Council.

Soon after the appointment of the Commissioners they entered upon the discharge of their duties and selected Mr. Edward Sawyer, of the firm of Shedd & Sawyer, as the engineer to make the surveys and to aid them in their investigations.

It soon became apparent, after the consideration of the subject had been entered upon, that in order to establish such a system of sewers as should be sufficient for the requirements of the city, legislation would have to be obtained from the General Court, and at our suggestion, the City Council authorized the Mayor to apply for the same. The Commissioners appeared with the Mayor and City Solicitor before the legislature and procured the enactment of a statute, being chapter 144 of the Acts of 1877. As this law did not confer all the authority which was necessary, and as it became manifest upon further surveys and examinations that it would be both economical and desirable to extend the main drain through a portion of the town of Watertown, another application was made to the succeeding legislature which resulted in the enactment of chapter 63, of the Acts of 1878.

At the request of the Commission, the City Council, in 1877, appropriated three thousand dollars towards defraying the expenses of the Commissioners in performing the work assigned to them. Of that appropriation there was expended only the sum of nine hundred and thirty-three dollars and fifty-nine cents, and the balance was transferred by the city government and expended for other purposes. In 1878 a further appropriation of two thousand dollars was made, and this latter sum, by the forbearance of our engineer, enabled us to complete the work, without asking for an additional grant of money.

The engineer completed his surveys and submitted to us his report on the day of its date, November 30, 1878, at which time the amount of his services and expenditures exceeded somewhat largely the last appropriation of two thousand dollars, and for which sum we gave him a certificate of approval. After receiving and examining that report and the accompanying plans, we requested the engineer to consider certain matters and to present his views in relation to the same. This he did—which rendered necessary a further study of the subject and the re-writing of considerable portions of the report in order to have those matters treated of in their proper connections, and the same was completed, as it now appears, within the present year. The amount of Mr. Sawyer's charges and services was in excess of both appropriations, but as your Commissioners wished to avoid asking for a further allowance, with which desire he sympathized, he very generously waived a just claim for further compensation amounting to several hundred dollars. The surveys which had been previously made by Mr. Sawyer in establishing the water-works were used to a considerable extent in the prosecution of this enterprise, and materially lessened the expense which must otherwise have been incurred.

Different methods of drainage and of disposing of sewage have received our attention, but after full consideration of the subject, we are of the opinion that the system of main

drains and lateral sewers, as fully set forth in the report and plans prepared by the engineer, which are herewith submitted, is the one which will, in view of all the circumstances, best subserve the requirements of our municipality and of its citizens. We therefore recommend its adoption. In doing so we do not wish to be understood as expressing the opinion that no deviation can be made, in the execution of the work, from the general plan proposed. On the contrary, as it is probable that many years will elapse before it will become necessary to construct the works to that extent and completeness which is contemplated they will finally assume, it may be found to be advantageous, in an economical point of view, not to adhere strictly to the plan at the outset. For instance, we are of the opinion that, if it shall be found to be desirable to build a drain for the benefit of portions of Wards 1 and 7, for a considerable period of time before it shall become necessary to largely extend the sewers into other parts of the city, then the construction of that section of the main drain, shown on the plans, as extending from the vicinity of the brook, near the former site of Brackett's coal wharf, to deep tide-water near the Arsenal, may be deferred, and a temporary wooden outlet be laid into Charles river, near the mouth of that brook. This the city has the right to do, subject only to the restriction that a public nuisance be not created. If this be done, then the estimated expenditure of one hundred and seventy-five thousand dollars for that portion of the work, or the smaller expense for a wooden trunk, as hereinafter suggested, may be postponed for several years, thereby saving to the city the annual interest on the cost thereof. In view of the small percentage of house sewage which would be discharged from that outlet into the river, it is not probable that any inconvenience or anything detrimental to the public health or comfort would result from the same. But as a measure of precaution it might be eminently proper that the whole flow of the brook should be turned into the sewer just before it empties into the river, and thereby largely dilute

what might otherwise be objectionable matter. The experiment is one which can be safely made. The whole subject will at all times be within the control of the city authorities, and whenever indications shall appear that the discharge into the river at that place may prove detrimental, either to health or property, the main drain can be extended to the ultimate terminus near the Arsenal. The construction of the main drain may properly be commenced in Maple Street, near the brook, and until the lateral branches shall be considerably extended there will consequently be but a small quantity of sewage to be disposed of. The knowledge to be derived from experience will indicate the length of time during which the drain may be discharged into the river at this point. There can be no question that the extension of the sewer to a point near the Arsenal may properly be postponed until after the construction of other portions of the work.

The Commissioners have carefully considered whether it might not be advantageous, in a financial point of view, to postpone the construction of that portion of the main drain which is indicated to be built across the marsh to the deep tide-water, of bricks, and of the dimensions as set forth in the engineer's report, for a period of fifteen years or more. But if, upon trial, it should be found to be necessary to have an outlet at that point, then to construct that part of the drain of timber and of a smaller size; and as the same would be below the level of ordinary high tides it would be preserved for many years. The distance is about five thousand feet. A wooden drain six feet square inside would undoubtedly be adequate for the carriage of the sewage for the period above-named, perhaps even for a longer time. If this should be done there would be a material saving in the first cost of construction. The land damages would be the same, but the cost of excavation would be somewhat less. We estimate the cost of such a wooden trunk at the sum of seventeen thousand five hundred dollars, which, with the cost of land and excavation would amount to about one hundred and thir-

ty-five thousand dollars, which would be about forty thousand dollars less than would be expended in the construction of the full size brick drain. If this should be done, then it might be well to build a brick drain from the lower terminus of Maple Street, near the brook, to connect with the upper end of the wooden drain, such portion to be only six feet in diameter instead of the size given by the engineer. The length of this part of the route is about sixteen hundred feet. The smaller drain would not cost as much as the larger one by eight thousand dollars or more. The two changes would make a total saving of nearly fifty thousand dollars; and this sum invested and the interest thereon compounded until the time shall arrive when it would become necessary to reconstruct the drain of the size and materials stated by the engineer, the same would amount to more than would then be required to defray the cost of the new work, which would probably not exceed the sum of seventy-five thousand dollars. The only question thus far presented in the consideration of this portion of our subject, is that of economy. The putting in of the wooden structure will not be an experiment, as similar drains in neighboring cities have been in use for many years with satisfactory results.

But there is another consideration why so much of the drain as will extend below Maple Street should be built in the manner just indicated. If the method of disposing of sewage now generally pursued shall be ascertained by scientific investigations and experience to be the only practicable way of dealing with it, and if population and manufactures shall increase as rapidly during the next twenty-five years as they have in the past quarter of a century, the disposal of the waste matter of the sewers will become a more serious and difficult problem than it is at the present time. The large sewer now being constructed by the city of Boston is not designed for the removal of any considerable portion of the sewage from either Newton or Brookline. And we do not learn that the authorities of Boston have as yet originated, or

seriously contemplated the construction of a system of drains which shall be adequate for the disposal of sewage from any considerable portion of the territory outside of its own limits. It is a question of considerable moment whether, for many years longer the sewers of Boston, Cambridge, Somerville, and Brookline can be safely permitted to discharge their contents into Charles river. If not, then objections may be made to the introduction of sewage from Newton, Watertown, and Waltham, into that stream. It is to be regretted that the whole subject of the drainage of Boston, and of its neighboring cities and towns, has not been committed by the authority of the State to a general commission, having power to prescribe a system for the whole metropolitan district, and to compel its adoption. But this has not been done, and it is manifest that for a term of years, whose limit cannot now be foreseen, the territory west of Brookline and Cambridge must be allowed to drain into the river. And we do not apprehend that any serious inconvenience will result therefrom until after the population shall become much more numerous and dense than it is at present. But what is to be apprehended is, complaints which may arise from the accumulation of sewage matter from other and larger sources, in the river and harbor below.

The fact that it is now impossible to foresee what may be required in the future is one important reason why the construction of a large and permanent drain leading from Maple Street to a point near the Arsenal should not hastily be entered upon. The outfall at that point will be at so low a grade that it will be impossible to connect that terminus of the drain with any drain to be constructed through Boston, so as to receive the sewage from Newton without resort to pumping, the expense of which should be avoided if possible. But if pumping must be resorted to, then it will be desirable that the large quantities of storm-water must be discharged from the sewers before arriving at that point. By an exam-

ination of the profile* it will appear that in the lower portion of Maple Street it is designed to construct the drain with a descent of fourteen feet within the distance of about three hundred feet. In the line of this descent and near its upper portion is the proper place to commence the six foot brick drain to connect with the wooden drain below, which we have already indicated will be of sufficient capacity to meet all reasonable requirements for at least fifteen years, and probably for twenty-five years. If, at the end of such period, the discharge of the sewers into the river shall not be found to be so objectionable as to require a discontinuance of the practice, or a modification of the same so far as to exclude the dry-weather sewage, then, whenever required, the building of the larger drain in place of the smaller brick and wooden structure may be effected. And by the time when the smaller drain shall become inadequate, we believe it will be definitely determined whether the sewage of Newton can or cannot be permitted to flow into the river. But if it shall be ascertained that the discharge of the principal portion of the sewage into the river must be stopped, then there can be constructed an intercepting sewer from Maple Street, by such route as may be found to be best, to and along the northerly slope of Brighton Hill to Faneuil, there connecting with a drain leading through Boston. This would also provide for the drainage of the northerly side of that hill. We think it is probable that this sewer could be constructed at such an elevation as would allow the sewage to pass from it, without pumping, into the connecting sewer. This intercepting sewer should have a capacity sufficient to receive the ordinary sewage, but should not be designed to carry off large quantities of storm-water, which should be discharged either through an outlet into the river near the brook, or by way of the drain across the marsh. As it must not be assumed that any considerable portion of the rainfall in Newton will be conveyed

* The profile and plans of the Engineer are on file in the office of the City Clerk.

by sewers through Boston, into the harbor, and we have not instituted any surveys concerning such intercepting sewer, and therefore do not submit any plan of the same, as we could not have done so without an additional appropriation having been granted, and the requirement for such a sewer is not sufficiently manifest at this time to call for further consideration from us.

Although drains of the size recommended by the engineer, above the point in Maple Street previously mentioned, will not actually be required for a number of years, yet it will not be expedient to construct them of any smaller dimensions than will be wanted within twenty-five or thirty years at least. A large part of such drains must necessarily be laid deep in the ground; the cost of excavation will be large, and it would be unwise, in view of these facts, within that period to incur the expense of re-opening the ground and reconstructing the sewers, besides subjecting the citizens to the annoyance which would necessarily arise from the obstruction of the streets during the progress of the work, and also causing no small injury to the surface of the streets. Could suitable sewers be built with only comparatively slight excavations and in a favorable soil, then it might be expedient to introduce a system of smaller drains than the one recommended. But as the opposite from this will be the experience of Newton in constructing its drains, it will be wise to largely anticipate future wants.

We have endeavored to recommend for Newton a system of sewers which may hereafter form a portion of a more general system, but anything which may be adopted by our municipality in this particular must necessarily be somewhat contingent, as to its forming a part of a greater whole, upon the developments and investigations of a not remote future. While we believe that the plan proposed is the only one which it would be wise to adopt at the present time, yet in view of what may possibly be required at no distant day, and of what scientific research may unfold, we believe that com-

mon prudence and sagacity require that only such portions of the work should be entered upon as may from time to time become necessary.

It is not to be assumed, as is apparent from the views herebefore expressed, that the plan proposed is to be adhered to in every particular. On the contrary, in the execution of the work, it will probably be found that in some respects changes can be advantageously made. For instance, the route of the main sewer for Wards 2 and 3 is not given as the only one which is suitable. The engineer has indicated on his plans the general direction and course of that portion of the drain, but neither he nor the undersigned desire to be understood as prescribing the precise route. It was necessary to indicate a line, and this has been done, but it may be varied and the drain be constructed where the least cost of construction and the smallest injury to estates shall in a measure indicate, due regard being had to the local advantages to be derived from the drain itself.

The engineer in the plan proposed has taken into consideration the occurrence of freshets, when it is probable that the capacity of the main drain and the principal branches will be inadequate to carry off the sudden and large accumulations of surface-water, and he has suggested that the sewers be permitted to overflow, at suitable points, before reaching the outfall, the extent of such overflow to be determined by the local circumstances at each point. We desire to emphasize the caution which the engineer has expressed as to this matter. And we regard his suggestion of so constructing the lateral branches that at points where the surface-water can otherwise be readily disposed of, only a limited portion of such water should be admitted, as being the method which will prove the more beneficial.

The very full and able presentation of the subject of drainage, and of the different methods which have been practised in other countries, as set forth by the engineer in his report, renders it unnecessary for us to enter into any lengthy dis-

cussion of the matter. Yet in view of its importance, of the attention which has recently been given to it, and of the experiments which have been commenced in our own neighborhood within the past few months, we deem it to be proper for us to state somewhat briefly the results of our observations and the conclusions at which we have arrived.

It is generally known that for a year or more the town of Lenox, in this State, has had in use drains by which the sewage is disposed of by filtration through tile pipes, and the surrounding soil prepared for that purpose. The situation of that town, the small amount of its sewage, the probable limited increase of its population, the large areas of suitable land which can there be obtained for the purpose, without being in close proximity to numerous dwelling houses, and the limited time which has elapsed since that experiment was undertaken, would not warrant us in recommending the adoption of a similar method for Newton, whose conditions and topography are somewhat peculiar.

During the present year, and within the past few months, the State, at its women's prison in Sherborn, has constructed and put in use a system of drainage under the direction of George Waring, jr., Esq., a well-known sanitary engineer. The prison has about five hundred inmates. The sewage, passing by drains outside the enclosure of the prison is there discharged into receiving basins, where the solid matter is retained; the liquid then passes by means of a large pipe into a series of tile pipes, of two inches diameter, laid in rows six feet apart and ten inches below the surface of the ground; from these pipes the sewage, escaping through the pores and at the joints, percolates through the soil, which has been prepared for that purpose, and passes downward to another series of similar small pipes, laid in rows twenty feet apart and four feet below the surface, and those pipes discharge into an open trench. What flows from these pipes has the appearance of pure water. These works have been in operation only three or four months, and that period of time has

been insufficient in which to test their adaptation for the purpose for which they were designed. We have examined the same, and from what we have observed and heard at the time of our visit, we were not favorably impressed. There was a very strong and disagreeable odor escaping from the ground in which the sewage was deposited, and we were told that, at times, the same was wafted into the prison and was exceedingly offensive. The tract of land in which the series of tile pipes are laid embraces about two and one-half acres, and is situated about forty or fifty rods from the buildings. It appeared to us that the character of the soil was not well adapted to the purpose, being wet, and not porous, and that it will soon become necessary to enlarge the filter-bed so as to contain an area of from five to eight acres, or even more. It will therefore be seen that unless the soil be light and well adapted to the purpose, more than an acre of land for a filter-bed will be required for every one hundred inhabitants; but under the most favorable conditions as to soil, even if the bed be made to a considerable depth, taking into account the long winter season of our northern clime, we do not believe that it will be advantageous to have less than an acre of filter-bed to every two hundred inhabitants. The liquid contents of the sewers is not, however, the only substance to be disposed of. The solid matter, or sludge, which is collected in the receiving basins, must be got rid of. It is worthless as manure. The quantity which would accumulate from the drainage of a city or large town would not be inconsiderable, and the expense of its removal would not be trivial.

Will such a system meet the requirements of Newton? Provision for the sewage from a territory to be occupied by not less than twenty thousand people must be made, otherwise the scheme would prove to be inadequate within a comparatively short period. This would require the appropriation of one hundred acres of land, certainly not less than fifty acres, for filtration, either in one or several lots. We are not

aware of any land in our city suitable for such a purpose, which can be so appropriated and which would be sufficiently remote from residences so as not to become a public nuisance. If there be no such land within the city limits, it cannot be expected that any neighboring town would assent to the discharge of the drainage of Newton within its borders, provided it could readily be done. And we do not presume that it is practicable to dispose of the sewage from our municipal limits by this method, without resort to pumping.

There is also a strong probability of another serious objection which would arise if this method should be adopted. It is evident that if the sewage gases shall escape from the filtration bed and be borne by the winds from an eighth to half a mile, they will be highly detrimental to the health and comfort of those residing in its neighborhood. That this will not be the unavoidable consequence cannot be safely asserted from the results thus far realized at Sherborn. It has there been ascertained that the flow of the sewage from the prison into one acre of land containing the series of pipes, for a continuous period of only four days, did not only thoroughly saturate the soil, but it also rose upon the surface of the ground and became stagnant, and as an inevitable consequence, large quantities of deleterious gases escaped into the air. If this be the result from the operation of the works for less than four months, what will be the effect when they shall have been in use for several years?

Before passing from this part of our subject there is a serious objection, to which allusion has already been made. The sewage from several portions of the city could not be disposed of in this way, even within the city limits, unless it should first be raised by pumping to a higher elevation. It would be somewhat expensive to do this, and from the best information which we have obtained, and the investigations thus far made, it would not be expedient at this time to adopt such a method of disposing of sewage in our northern

situation, where for six months in every year there is no growth of vegetation, which would take up the sewage for plant nutriment. Furthermore, we do not think it would be feasible by this method to dispose of any considerable portion of the surface-water of the streets, gardens, or grounds. So far as this may be desirable, it is apparent that this system would not meet the reasonable expectation of our citizens. The necessity for the removal of the surface-water by sewers is not so manifest now as it will be when the population shall have doubled or quadrupled and the lands have been applied to such uses as shall cause all water thereon to run quickly off into the streets. Any system of drainage which shall not provide for the reception of considerable quantities of surface-water in certain localities will, in the end, prove to be inadequate and a source of disappointment.

We are aware that this system has a respectable number of advocates and the same has recently been freely discussed, and for these reasons the subject has been carefully reviewed by us and is here more fully treated of than it would otherwise have been. We have not perceived any cause for dissenting from the opinion of our engineer; on the contrary, a re-examination of the subject has strengthened us in the conviction that the general views and conclusions expressed by him are correct. Nevertheless, it will be the part of wisdom not to be unmindful of the experiments and investigations now being made, as the results may be such as to justify a modification of the system recommended. It is certainly desirable that some means be discovered whereby, without disproportionate expense, the purification of sewage by its application to the land, without being harmful in a sanitary point of view, can be secured. If, however, there be an urgent demand for drainage, it will not be wise to await the results of incomplete experiments, but drains should be constructed upon the plan which, from practical tests, gives promise of the greatest utility. And if, in the judgment of the public

authorities of Newton, it be deemed necessary to enter at once upon the construction of drainage works, we unhesitatingly say that the plan proposed by the engineer, as modified in this report, is the one, in the light of present knowledge, best adapted to meet the wants of our city and citizens.

It will be observed that the engineer has not, in his report, made provision for the draining of the two villages at the Upper Falls and the Lower Falls, as the sewage from those places could not be carried by gravitation into the main drain. Should the method now in use at Sherborn afford sufficient promise of utility in our climate, it may be found to be practicable to apply that system, with some modifications, to those villages, provided land suitable for filtration beds, sufficiently remote from dwelling-houses, can be obtained for that purpose.

Before closing this report, your Commissioners beg leave to call your attention to the authority conferred by chapter 69, of the statutes of 1878, to establish grade lines for drainage and sewerage, within such portions of the territory of the city, as may from time to time be found to be expedient. The exercise of this authority is vested in the Board of Aldermen. The statute provides that after such lines shall have been established, no building shall be erected or cellar constructed, below such grade lines.

It is unnecessary to recite here all the provisions of the statute; but if they be applied and enforced, it is manifest that the operation of the law will greatly tend to promote the public health, and, in a pecuniary point of view, be highly advantageous to the city.

The failure to establish such lines in the cities of Boston and Cambridge has cost those cities respectively large sums of money, and they have been compelled, at great expense, to remedy evils which ought to have been prevented. Newton should learn from their experiences not to delay action, but

should at once enter upon the work of establishing lines as authorized by the statute. Already houses have been erected on lands in various parts of the city at too low a grade, and if the continuance of such a course be not stayed, our city, at no distant day, will be involved in a matter of no small difficulty and cost. After the difficulty shall exist, the city authorities will be brought in direct conflict with the owners of the houses on these low lands, and although they may have the power granted to them sufficient to enable them to successfully deal with the grievance,—yet it is almost an invariable rule that any interference with private property, in such cases, is at the cost of the public. The recent experience of Cambridge is a good illustration. Under a special statute, that city required certain large tracts of land to be filled to a prescribed grade, and the houses thereon to be raised in conformity therewith, and as the owners did not comply with the direction, the city caused the work to be done, and thereupon assessed the cost of the work on the respective estates. But the legislature, in order to protect the citizens from hardship or oppression, had inserted in the statute a provision that any person, instead of paying his assessment, might surrender his estate to the city and be paid its value, independent of the benefit arising from the work. The result was that the city became the owner, by surrender, of estates to the amount of about a quarter of a million of dollars, and was compelled to pay for the same an amount greater, in many instances, than the property with the improvements could be sold for by it. And in some instances, the city abated seven-eighths of the particular assessments, in order to effect settlements and avoid surrenders.

We assume that our labors as Commissioners terminate with the presentation of this report. The duty assigned to us was not free from difficulty, but we trust that the manner in which it has been discharged by us will be conducive to the interests of the city and of our fellow-citizens. In clos-

ing, we cheerfully express our approval of the attention which the engineer has given to the subject, and our appreciation of the valuable assistance and suggestions which we have received from him.

All of which is most respectfully submitted.

CHAS. ROBINSON, JR., }
E. W. CONVERSE, } *Commissioners.*
J. FRANKLIN FULLER, }

NEWTON, December 27, 1879.

REPORT OF THE ENGINEER.

TO HON. CHARLES ROBINSON, JR.,
E. W. CONVERSE, ESQ.,
J. FRANKLIN FULLER, ESQ., } *Commissioners on Sewerage for the
City of Newton.*

GENTLEMEN : — I now present my report in relation to the matters which you have referred to me.

THE DISPOSAL OF THE SEWAGE

is the first subject for consideration.

The principal means of disposal of water-carried sewage may be divided into three classes.

1st. Treatment for coagulation and subsidence, by the aid of chemicals.

2d. Application to land.

3d. Discharge directly or indirectly into the sea.

TREATMENT BY THE AID OF CHEMICALS.

This treatment, in some of the numerous "precipitation processes," has been practiced to some extent in England for more than thirty years. The hope at first entertained of making valuable manures in this way, has now been generally abandoned. The sewage is clarified by the removal of part of the matter in suspension, but the fertilizing elements are chiefly in solution and are not extracted to any great extent by these processes. Hence the precipitated sludge has but little value as manure. Formerly, farmers would sometimes pay a trifle for some of it for use near where it was produced.

"At Birmingham there is now no serious attempt to sell

the sewage-sludge, but it is at great cost, £14, 10s. per acre, dug into a portion of the farm land, at a rate of about one acre per week ; or at a loss of about £750 a year. At Leeds, Bradford, Bolton, and at Coventry, thousands of tons of extracted sewer-sludge remain to cumber the works."

Perhaps the most successful application of a precipitation process, in a sanitary point of view, at present in operation, is at Coventry, in England.

This city has about forty thousand inhabitants, living in ten thousand four hundred houses. Private water-works supply about seven hundred and twenty thousand imperial gallons of water per day ; there are also twenty-one public wells and many private wells, from which a considerable number of the people obtain water, so that the consumption for domestic purposes is estimated at twenty-five gallons per day per inhabitant.

There are five thousand water-closets and numerous silk-dyeing works, breweries, oil and varnish works, etc., from which refuse liquids pass into the sewers. Large quantities of subsoil water also leak in, so that the ordinary daily flow through the sewers is two million gallons, or fifty gallons per day per inhabitant.

The "General Sewage and Manure Company, Limited," took the sewage and a few acres of land under a fourteen years' lease, at a rental of £75 per annum. Works were built at a cost of twelve thousand pounds, and got into operation about five years ago. The sewage was first strained, then treated with chemicals and run into large tanks to allow the sludge to settle ; after which the water was drawn off and run through a filter consisting of about four and a half acres of loamy land with sub-drains about five feet deep. These drains discharge into the river Sherbourne, which is a small and rather sluggish stream about ten feet wide. Its natural flow is sometimes not more than half as large as the volume of sewage-water turned into it from the Coventry works. In other words, it is a stream about twice as large as Cheese-cake brook, at West Newton.

It was reported that the sludge amounted to about thirty tons per day, and cost, in its wet state, about 4s. 10d. per ton. A part of it was dried by centrifugal machines and artificial heat, and in this state it cost £2, 10s. per ton. The sludge could not be sold, either wet or dry, at anything near its cost, and hence the drying by artificial heat was abandoned. In January, 1876, after special exertions, three hundred and fifty tons of sludge direct from the subsidence tanks were taken or ordered by neighboring farmers, at 3s. per ton, or sixty-two per cent of its cost.

In April, 1877, the engineer of the company reported that the cost for each million gallons of sewage treated was £4, 14s. He also says: "The sales of manure, according to the books, have been at rates varying from 4s. a ton for sludge containing about sixty-five per cent of moisture, to 40s. a ton for dried manure containing ten per cent of moisture." According to this, the cost for treating two million gallons per day would be £3,430 per annum, and from all the information attainable, it seems probable that the company lost at least £3,000 every year.

It might reasonably be inferred that the company could not long continue at this rate; and in the latter part of 1876, the Town Council appointed a committee to investigate matters, and they reported in favor of continuing the system. In May, 1877, a new contract for carrying on the works was made with the "Rivers Purification Association, Limited." The terms of this contract are not made public.

After the sewage is strained, it is dosed with a cheap salt of alumina (obtained by treating the shale found in the coal and iron-stone formations with sulphuric acid); lime is then added to the mixture, and subsidence and filtration follow, as before described. The cost of the chemicals is about £1, 13s. per million gallons of manufacturing sewage, and about £1, 2s. 6d. per million gallons of domestic sewage. It should be observed that this cost is for sewage diluted to the rate of fifty gallons per day per inhabitant.

The chemical treatment is not continuous, however; all the sewage from 11 P. M. till 5.30 A. M. flows through the settling tanks and on to the filtering area without any admixture of chemicals.

The drying of the sludge by artificial heat is definitely abandoned, and no return from sales of sludge is now relied upon.

In applying this process, it is desirable to find a location for the works to which the sewage can be carried by gravitation, and at a good distance from other buildings, so that under proper restrictions, the odors will not make a nuisance. As the effluent water after the treatment retains a large part of the soluble and putrescible sewage matter, unless it is thoroughly filtered through land, it must be carried in covered sewers to some stream or body of water large enough to dilute it with several times its own volume of nearly pure water.

In the case of Newton, there may be some question whether locations sufficiently remote from buildings can be secured. The best approximation would seem to be as follows:—carry the sewage of Wards 1 and 7, and part of Ward 2, to the marsh between Newton and Faneuil, and the rest of the sewage to the bank of the Charles river at the mouth of Cheese-cake brook. This could be done without pumping, and probably the effluent-water could safely be discharged into the river in both cases, though some people might be unduly alarmed and object to a discharge at the last-mentioned place. The sludge would have to be carried away to land dry enough to receive it without offence. At present the nearest houses are about a quarter of a mile from each of these locations. Probably objections, whether reasonable or not, would be made by the owners of adjoining lands against the treatment of sewage on a large scale at either of these places.

The first cost of conducting the sewage to these locations, and of land and plant for carrying on the process, would

probably be as great as for carrying the same amount of sewage to an outfall opposite the Arsenal grounds, as hereinafter recommended.

A large part of the usefulness of an ordinary system of sewers consists in its ability to carry away the rain-water from the streets. The first run of street-water at the beginning of rainfalls is often more filthy than ordinary dry-weather sewage.

A very large part of the sediment deposited in streams by sewers comes from the streets during storms. Hence precipitation works should be large enough to take care of a storm-flow considerably greater than the ordinary dry-weather run.

APPLICATION TO LAND.

The application of water-carried sewage to land, by irrigation or filtration has never been made on a large scale in this country; but sewage irrigation has been thoroughly tried for about twenty-five years in England, where it has been more extensively employed than the precipitation processes; and the Craigentinny and other meadows near Edinburg have been irrigated with sewage from that city for about one hundred and twenty years.

Strenuous efforts have been made to secure the best sanitary results by this process and at the same time to make it profitable, or at least self-supporting. It was believed that sewage contained fertilizing elements of great value which, instead of being made the means of dangerous pollution of rivers and harbors, might be utilized by applying the sewage to land.

But many of the difficulties were unforeseen or underrated; and although this process is capable of giving better sanitary results than the precipitation processes, extended trials by many cities and towns in England seem to show that, commercially, it is a failure.

In an agricultural view, however, considerable success has

attended the application of sewage to some of the coarser grasses and vegetables which absorb large quantities of water. The English "Local Government Board" states that Italian rye-grass seems to be the most advantageous crop for this purpose, "as it absorbs the largest quantity of sewage, occupies the soil so as to choke down weeds, comes early into market in the spring, (February 12, in one instance,) continues through the summer and autumn, bearing from five to seven cuttings in the year, and producing from thirty to fifty tons of wholesome grass upon each acre. The area placed under this crop must, however, have reference to local means of consumption, as the young grass will not keep nor bear long carriage. It is most profitable for feeding to milch cows. A dairy and sewage farm should, therefor, whenever practicable, be associated. In a dry and warm summer, good hay may be made which will be sweet and wholesome." In one instance, in 1876, forty-five tons of hay were made from one cutting of eighteen acres of rye-grass.

In India, Spain, Southern France, and Northern Italy, irrigation on a large scale has proved successful, both financially and agriculturally. But great allowance must be made for difference of circumstances. These countries have torrid climates and thirsty soils. In England and the United States the conditions are different. Hence there is great force in the statement of Prof. Way, as an argument *for* the system, agriculturally and commercially, in India, and *against* it in England and the United States: "Under given conditions the sewage is valuable merely as water, and under other conditions the water is so objectionable that you would rather lose the manure than be obliged to have the water."

For this system a suitable tract of land must be obtained by purchase or lease. The conditions to secure the best results are numerous. It should lie so low that the sewage will reach it by gravitation, or the process of pumping must be resorted to. It should be of sufficient area for present and increasing future demands; and it should have a light

porous soil, either naturally or artificially under-drained. It should not be so near the town as to be a nuisance to the inhabitants, nor so distant as to greatly increase the expense of conveying the sewage—say one to two miles away—and the direction of the prevailing winds should also be considered. It should be skillfully laid out for its intended purpose, and thereafter managed with unremitting skill and care.

Where the principal aim has been to get large agricultural results from the sewage, in the best English practice, it has been applied at the average rate of about three thousand United States gallons per day per acre.

As the effort to make sewage irrigation profitable has generally failed, and it is difficult in many places to obtain a sufficient area of land for the purpose, a new plan for the purification of sewage by its application to land, suggested by Dr. Frankland, and called "Intermittent Downward Filtration," has been tried in several places.

This plan undertakes to purify the sewage of about one thousand persons on one acre of land, or ten times as much as is ordinarily provided for by an acre in broad irrigation. But so far as I know, it has not been tried alone at any place permanently. At Merthyr Tydfil, in the south of Wales, this plan was followed for a few months while the irrigation fields were preparing; but there, as at Kendal and Abingdon, in England, the ordinary use of the filtration areas is in combination with broad irrigation. The three places above-named are the only prominent ones where the scheme is now in operation. Mr. Bailey Denton, the engineer who planned the works for each of these places, has recently presented the works at Abingdon, which were the last to be finished and which have now been in operation about a year, as a model for economy and "a favorable instance of intermittent filtration combined with surface irrigation."

In intermittent downward filtration the successive filling of the soil with air and then with sewage, is relied upon to

bring the particles of sewage into minute contact with particles of air so that the putrescible matters shall be oxidized and destroyed. This, however, is but a systematic development of a process which goes on, to a considerable extent, in ordinary irrigation.

Abingdon "has a population of a little above six thousand, and a ratable value of about £14,750. The land selected for the cleansing of the sewage, and purchased by the urban authority, is distant half a mile from the town."

Mr. Denton says, "thirty-four acres of land have been prepared," by under-draining, grading, etc., "six and one-half for intermittent filtration, and twenty-seven and one-half for surface irrigation, and the total outlay, including delivering conduit (pipes) as well as chambers and distributing earth carriers, cart roads, barrow paths, and fencing, wages of clerk of works, and charges of engineer, has not exceeded £2,550, or an average of £75 per acre. The cost of preparing the land for intermittent downward filtration did not reach £85 per acre, while that of preparing it for surface irrigation cost over £70 per acre, including in each case a proper proportion of attendant charges. The soil of Abingdon is not more suitable than that of Merthyr and Kendal, yet it will be seen that the actual cost is only about one-third of that represented in the report referred to as the case at Kendal."

If we assume that it is proper now to provide works for Newton which may in the future be readily extended so as to be suitable for a population of forty thousand, it would be needful to obtain an area of about four hundred acres on which to purify the sewage by broad irrigation. On this area some provision should be made to purify the sewage while it is not needed by the crops. For this purpose, filtration areas may be constructed, or "waste land" set apart, or reservoirs built to receive the flow when it cannot otherwise be disposed of.

If it were possible to dispose of the sewage by filtration areas alone, a much less area than that above given would

suffice. The estimate that the sewage from one thousand persons can be disposed of upon one acre of land is made by the friends of this plan. The experience obtained at Mertyr Tydfil indicates that under ordinary circumstances the sewage of five hundred persons would be all that could be disposed of upon an acre, for a series of years, without choking the land. To be on the safe side, therefore, it would be necessary to provide eighty acres for filtration *per se*.

I do not know of any suitable tract of even eighty acres, in or near Newton, whose use for this purpose would be allowable, and where the sewage could be delivered without pumping.

Judging from the experience abroad, which has been very extensive and decisive, we must dismiss from our minds all idea of obtaining a profit from sewage farming.

In Newton the dry-weather sewage, including subsoil-water which will leak into the sewers, will probably amount to at least seventy-five gallons per day, or one hundred and fourteen tons per year, for each inhabitant in the sewered districts. The fertilizing elements in the total excreta of an average individual, per annum, have been estimated by European chemists as follows:—

Ammonia,	10 to 12½ pounds,	say 11 pounds.
Phosphoric acid,	„ 2½ „	
Potash,	„ 1½ „	

The value, in Boston, of the above in a crude and impure condition fit for agricultural use only, as in guano or bone dust, may be a little over \$2.00. Distributing this through one hundred and fourteen tons of sewage-water gives less than two cents' worth of manure to a ton of water; and this is a maximum estimate, as the rate of dilution will probably be greater than here reckoned in dry weather, and certainly much larger in wet weather. This view is sustained by the analysis of the sewage of Boston and Worcester made for the State Board of Health. By these examinations it was found that the fertilizing matters in a ton of the dry-weather sewage of Boston, compared with fertilizers sold in the mar-

ket, were worth about one cent, and in the sewage of Worcester about seven-eighths of a cent.

Small as the value of sewage is thus seen to be, it cannot all be made available to the growing crops. Under the careful and remarkably successful management of Mr. Hope at Romford, about one-third of the nitrogen combined in the ammonia of the sewage has been availed of by the crop, and under other circumstances nearly seventy per cent of the nitrogen has been found escaping in the effluent-water.

The utilization of sewage in this country, on a large scale, is quite untried, and under the different circumstances existing here new difficulties are likely to arise. It is quite clear that, for the sake of economy, the sewage for Newton should be discharged into the tidal portion of Charles River, if it is found to be practicable to do this without making a nuisance.

DISCHARGE DIRECTLY OR INDIRECTLY INTO THE SEA.

Probably forty-nine fiftieths of the water-carried sewage of the civilized world is disposed of in this way.

The objection often made that this method wastes valuable manures, is shown by the facts above quoted to have but little weight.

The objections on the score of the fouling of the waters and filling up the channels of rivers and harbors, are of more or less importance, depending on the circumstances in each particular case, and chiefly on the amount of sewage matter comparative to the volume and strength of the current of water into which it is discharged.

It was supposed that arrangements might be made at some future time, for discharging our ordinary dry-weather sewage into an extension of the proposed Boston main drainage, at some point near the Watertown Arsenal, and discharging into Charles river only when the main sewer should be over-filled during storm. The Boston Sewerage Commissioners of 1875, proposed to start east from Cottage Farm, with a main

drain nine feet in diameter, and having its crown at grade eight ; that is, eight feet above mean low tide.

If a sewer of something near this size should be extended up to North Beacon Street opposite the Arsenal, rising one in twenty-five hundred, it would be practicable for us to unite with it.

But the present plan, as set forth in the Report on Improved Sewerage, July, 1877, is materially different. It provides for sewage from places west of Cottage Farm, as follows :

From Waltham,	1.81	cubic feet per second	=	108.6	cubic feet per minute.				
Watertown,	1.81	" "	" "	=	108.6	" "	" "	" "	" "
Newton,	8.08	" "	" "	=	484.8	" "	" "	" "	" "
Brighton,	27.14	" "	" "	=	1628.4	" "	" "	" "	" "

A sewer thirty inches in diameter, will discharge the amount above allowed for from Waltham, Watertown, and Newton, viz., seven hundred and two cubic feet per minute, even at the low velocity of 2.4 feet per second, which is about the slowest that is sufficient to prevent the accumulation of deposits.

Sewers of the small sizes suitable for this scheme require so much fall in order to make them self-cleansing, that they could not drain any territory on the plain west of Newtonville, nor any of the river slope in the vicinity of the North Village, unless the sewage were raised by pumping ; and the capacity proposed would be only a small fraction of what is desirable even for the limited territory which they could reach by gravitation in Wards 1, 2, and 7.

Further, the Boston sewer will probably not be extended up to the vicinity of the Arsenal for many years to come. In the distant future, arrangements may, perhaps, be made for discharging part of the dry-weather sewage of Newton into it. It is obvious then that the Boston system cannot offer any adequate provision for our wants, and is not entitled to any further notice or consideration.

We can estimate with confidence what effects will be produced by the discharge of the sewage of Newton into Charles

river opposite the Arsenal, from an examination of the actual effects in many similar cases in this country and in Europe.

The quantity of water flowing in a stream at different stages, can be estimated approximately from the area and character of the territory draining into it, the rainfall, etc.

Substantially all the pollutions of streams come from the inhabitants and businesses which send their refuse directly into them, either through sewers or by surface drainage. Hence, most rural and village populations should be left out of account in an enquiry of this kind, as not contributing appreciably to the pollution of any stream.

In this connection, it is important to observe that much the larger part of the sewage nuisances in the civilized world are produced by refuse from manufacturing operations. It is true that there are many local nuisances, at outfalls of ordinary sewage ; but most of them might have been prevented by better arrangements. There are also cases where small brooks are badly polluted in running through dirty villages. But the cases where rivers, even of the smallest size, receive domestic sewage enough to make any nuisance *after it is once mixed with the whole volume of the stream*, are rare. The Blackstone river below Worcester is probably the only one in this class in New England ; and this case is, perhaps, the most instructive one that can be referred to in considering the discharge of the Newton sewage into Charles river.

The drainage area of Blackstone river, down to the outfall of the Worcester sewers, is about fifty-four square miles. The city has about fifty thousand inhabitants, of whom about forty thousand live in houses connected with the sewers. There is also rather a large inflow of manufacturing refuse, especially from woolen mills.

The result is, that the stream is polluted to a highly-objectionable extent. As it flows down the valley towards Pawtucket, it furnishes power for an immense amount of manufacturing, and it receives large quantities of filth from the mills and houses ; but it receives good water from its trib-

utaries at a much more rapid rate. At Farmunsville, about ten miles below Worcester, the water is still bad ; but the dilution and other natural purifying agencies render the water tolerably good before it reaches Blackstone village, some fifteen miles further down-stream ; so that chemical analysis fails to detect any evidence of impurity sufficient to condemn the water at that place as unfit for domestic or any other use.*

The drainage area down to Farmunsville, is estimated at one hundred and thirty-eight square miles, — down to Blackstone at two hundred and seventy-six square miles ; and the populations of the cities, villages, etc., now sewerage into the river above these places respectively, is estimated at fifty-one thousand and fifty-five thousand one hundred.

At Lonsdale, the river water has been used until recently, for all operations in the bleaching of the finest muslins.

Similar comparisons in regard to many other streams give like results, — allowances being made as well as practicable for differences in manufacturing refuse, — but it would take too much space to report them here.

I estimate the drainage area of Charles river down to the Watertown Arsenal at two hundred and eighty nine square miles. But one-third of the water down to Newton Upper Falls is diverted through Mother brook. Deducting seventy-three square miles on this account, we have two hundred and sixteen square miles as the area, contributing fresh water at the Arsenal.

But the quantity of tide-water which comes above Old Cambridge, is about twice as much as the ordinary flow of fresh water in the river ; so that there is three times as much water for diluting sewage, in this part of the river, (to say nothing about the tide-water below,) as if this were a fresh-water stream only.

At present, Charles river above tide-water is not materially

* Report State Board of Health, 1876, p. 84.

affected by house sewage. The slight brown tinge every where found in its water is of vegetable origin, and similar to the coloring matter of tea. The impurities noticeable at Watertown, come almost wholly from manufacturing refuse.

Considering all the facts, I am of the opinion that with skillful management the sewage of Newton can be discharged into the river, below low-water mark, near the Arsenal, for many years to come, without much objection or just ground for complaint, and I have no hesitation in recommending this as the most feasible plan.

It is true that the sewers will carry down considerable quantities of street mud and other solid substances, some of which may possibly be deposited in the bed of the river. But it should be remembered that the storm-water from this territory, has been carrying solid matter into the river from time immemorial, and the current has carried part of it on to the marshes and the remainder out to sea, so that there is no proof of any general shoaling of the river, since the first settlement of the country.

If, however, part of the sewage matter should settle in the river, it can be dredged up by steam power and carried by water to some suitable dumping ground, much cheaper and with much less offence than would be involved in any plan for settling in reservoirs and removal by hand labor and carts.

We have now to consider the best method of collecting the sewage, and conveying it to the outfall.

In the early discussions upon the utilization of sewage, when it was generally supposed that a mine of wealth existed in human wastes, the difficulty of separating this wealth from the great volume of water in which it was diffused was recognized, and the cry of "The rain to the rivers, the sewage to the land," arose among enthusiastic sewage economists. This, in its entirety, is impracticable. An attempt to accomplish it involves a double system of sewers throughout.

That such double system is rarely attempted, even in cases where the advantage would be much greater than can possi-

bly be the case in Newton, shows that the weight of experience is against this plan. It is expensive and complicated and likely to give unsatisfactory results.

The first run of street-water during a shower, contains accumulations of horse excrement, etc., and ought to be taken in with the house sewage. Any effort to separate the rainfall from other sewage after the first run, involves numerous connections and an arrangement of separating weirs between the two systems, by which a small run of water in the rain-water system, may be turned entirely into the house system, and a large run of water in the rain-water system, may be kept entirely out of the house system. According to this plan, two lines of sewers must be laid in every street, and connected with every house, unless it is arranged for the house system to take the rainfall from the roofs and yards, which, however, will not obviate the necessity for the second system to take street-water. This double system involves great expense, both in construction and in maintenance, and it has been found practically that with the most careful supervision it is almost impossible to prevent the tapping of house drains into the rain sewers, or the rain conductors into the house sewers, either by mistake or design, especially when the sewer into which the particular drain ought not to be entered, lies nearer to the premises than the proper sewer. To whatever extent these mistakes are made, the tendency is to defeat the effort to maintain separate systems.

If it is argued that the rainfall may go off as it has always done, we have to consider that individual owners of lands in growing places, are constantly changing and improving their property, and may at any time stop the ordinary surface flow of rain-water over their lands and turn it into the streets. Such action on the part of land owners cannot be prevented, and it often changes materially the conditions under which the city drainage is to be cared for. Once turned into the street in large volume, the rain-water must be taken care of

by sewers, because the damage which would result to property by any other course would be unbearable.

It is only where there are brook channels which may be reached by the rainfall, without passing over improved lands that it is practicable to dispense with sewers for the conveyance of rain-water.

It appears to me that the effort to secure a separate collection of house sewage will involve, eventually at least, a complete double system of sewers, and that this is too expensive and unsatisfactory, on the whole, to warrant its adoption.

We come then, to a consideration of the amount of sewage to be provided for in the single system of sewers.

The most important function of sewers being to remove filth, they should be so planned as to serve this purpose in the most effectual way, so far as is compatible with their other functions. At the best, a scheme of sewerage must be a compromise between somewhat conflicting requirements. To be self-cleansing during dry weather, when the flow in the sewers is comparatively insignificant, the channels must be narrow, so as to concentrate the streams. This tends to keep the sewers small. The effort to keep down the cost of works has the same tendency.

On the other hand, the proper provision for storm-water requires large sizes. In some localities, the sewers must be large enough to take all the water coming to them even in the greatest storms; and we have seen, that as a general rule, water which once gets into much-travelled streets must be carried away by the sewers. But in places like Newton, the water from large tracts of unoccupied land, which can conveniently be run into the brooks, and kept out of the sewers should be so treated. As far as practicable, the brooks should be kept separate from the sewers, except to avail of brook-water occasionally during droughts, to keep the sewers clean.

The most common rule, in the best practice in this country and in Europe, is to make lateral sewers of capacities to take

care of a rainfall of about one inch per hour, on the assumption that about one-half of this rain-water, or thirty cubic feet per minute per acre, will reach the sewers from ordinary city territory which is nearly level. If the ground varies materially from level, or if it is very compactly built upon, the capacities of the sewers should be suitably increased.

The carrying capacity of large branches and mains is made less than the total capacity of their feeders, by amounts depending on the differences in character and distance of the different sub-districts, in consequence of which the tributaries will seldom all run full at the same time.

Experience indicates that some parts of a system of sewers so arranged may be overcharged for a short time, perhaps once in three or four years on an average, in consequence of heavy rains on ground frozen or already saturated, rainfalls exceeding one inch per hour, etc. At such times, damage will result from the washing of streets, flooding of low grounds, cellars, etc. In most cases, it seems better to take the risks of this, rather than to make the sewers larger,—hence, more costly and less suitable for dry-weather flow.

By properly restricting the admission of storm-water,—correcting if need be by experience of the working of the system, as it develops year after year,—this flooding may be almost wholly avoided.

The Providence system of sewers, which was designed and in large part built from three to five years ago, and which is sometimes quoted as one of the best in existence, is based on this theory, of providing for one inch of rainfall per hour,—its main peculiarity in this respect being that the additions for steepness of surface both ways, were carefully and scientifically worked out. Several of these sewers have been overflowed once or more in unusual storms, and considerable complaint has followed, somewhat as anticipated.

Provision even to this extent requires very costly mains for large districts, especially if the slope is small or the out-

fall is far distant, and in such cases it becomes very important to avail of every allowable way of reducing cost.

In some cases, sewers can be allowed to overflow when running full or nearly so, thus discharging part of their contents at suitable points short of the outfall. The extent to which this can judiciously be done depends on local circumstances, such as the size and strength of the stream discharged into, its proximity to houses, etc.

The intercepting sewers built some fifteen years ago for the London Main Drainage System, were designed to carry only one-quarter inch of storm-water in twenty-four hours, or about five-eighths of a cubic foot of water per minute per acre, plus the house sewage. It was estimated that in an average year there would be twelve storms which would send water to the mains faster than this, and overflows were made for discharging the excess into the Thames by the easiest routes. In several instances since the completion of these works, the excess of storm-water above the capacity of the sewers has flooded many cellars and low-lying grounds, and great complaint has been made in consequence.

The capacities of the main sewers now in process of construction for Boston, were fixed on the same basis as the London system; that is, to provide for the house sewage and one-quarter inch of storm-water in twenty-four hours. But heavy rainfalls are so much more frequent here than in London, that the Boston system, when all the lateral sewers are completed and connected, will probably be overcharged some thirty times per year. This number of overflows, at the corresponding low rate of dilution, may be tolerated in Boston, where the discharges can be made directly into the large volume of water in the harbor.

One strong reason for keeping the capacity of the mains down to the smallest limit allowable, both in London and in Boston, is that all their contents have to be raised by pumping.

But it should be remembered, in this connection, that foul

water becomes dangerous and otherwise offensive about in proportion to the degree of pollution. Hence one principal desideratum is to secure the highest practicable rate of dilution.

In view of the objections against turning sewage into Charles river above tide-water, it is obviously desirable to include as much as practicable of our territory in the district discharging at the proposed outfall. The area which can conveniently be included in this district, is estimated approximately at five thousand five hundred acres, which is something less than half the total area of the city. A small area of low land near Riverside, also Lower Falls Village, Upper Falls Village, and the southerly part of the Highlands cannot be brought into this district at any reasonable cost. I estimate the number of inhabitants in these places, together with those outside of all the villages, at about one-fifth of the whole population of the city,—leaving about four-fifths within the drainage district of five thousand five hundred acres.

To carry all the water of ordinary storms from this district would require sewers of enormous size. And as large parts of the district are now, and will long continue to be unoccupied by buildings, the drainage from them may safely be allowed to flow off through the natural brooks.

As a general rule, it seems reasonable to build main sewers of such sizes as will answer for about twenty-five years to come. Present outlay for anything not needed within that time is usually injudicious, because the cost will quadruple itself at compound interest; and after all, the work may prove useless or nearly so, owing to the impossibility of foreseeing what will be needed so far in the future.

It is difficult to estimate with much confidence, how fast the unoccupied areas will be built upon, but I judge from the past rate of growth of the city, that there will be nearly fifty thousand inhabitants within this drainage district

twenty-five years hence, and that about three thousand four hundred acres will be occupied to such an extent, that its drainage will be unfit to run in the natural channels.

It will not be necessary, however, to provide sewers for carrying away all the water from this area in large storms. But it will be extremely desirable to take a large part of it, because, as previously mentioned, the first run will be mixed with foul matter to such an extent as to be about as objectionable in the open channels as house sewage would be; in fact, gutter-water, often appears much fouler than ordinary dry-weather sewage. It is also desirable to get a good run of water through the sewers at every storm, for the purpose of flushing them out,—the ordinary dry-weather flow being too feeble and sluggish, in many cases.

The amount of storm-water which should be taken through the sewers, will depend upon the amount of refuse produced within the district, and hence upon the population, both as to refuse matters from buildings and filth caused by travel on the streets. It should be observed, however, that Newton is almost wholly a city of residences, so that the amount of refuse to be removed is much less than it would be if the inhabitants generally remained there and worked at trades and manufacturing.

On the whole, I believe it will be best to follow the common practice as to lateral and small branch sewers, *i. e.*, to make them with capacities for thirty cubic feet per minute per acre of flat territory, with suitable allowances for steepness. Also to make the larger branches of various less capacities down to five cubic feet per minute per acre, according to circumstances; and to make a main sewer capable of carrying four and one-half cubic feet per minute per acre, including the house sewage, or about fourteen thousand five hundred cubic feet per minute, from the area of three thousand four hundred acres.

The scheme which I recommend is intended to fulfil these

conditions, and is shown somewhat in detail by the accompanying plans and profiles.*

It will be advisable to provide for the future drainage of the lower part of the valley of Cheese-cake brook, and the river slope east of it, by keeping the main sewer low enough to receive a branch from this territory. This branch may enter the main near the brook, a short distance east of Jefferson Street. At this point, the crown of the main should be at grade 14.36 ; and starting from this, it may fall one in 1,250 ; which, if continued so far, would bring the crown to about grade 9.00 at the outfall. But instead of this, a short piece of the sewer next the outfall should run down much more rapidly, so as to carry the discharge below low-water mark.

I estimate that the tide at the proposed outfall is below grade 9.00 about five-sixths of the time. Spring tides rise to about grade 11.00. A sewer of eight feet six inches in diameter, running full and at the proposed grade, will discharge about eleven thousand five hundred cubic feet per minute, when the tide is at grade 11.00 ; about fourteen thousand nine hundred cubic feet per minute, when the tide is at grade 9.00, and more at lower stages. Considering all the facts, I believe this size, or an equivalent about eight feet wide and nine feet high, is the best to adopt.

The principal branch sewer from West Newton down to Galen Street, cannot well have a fall of more than .065 per hundred, or one in 1,538 ; and it seems best to make it eight and one-half feet in diameter up as far as Crafts Street, where it will receive the drainage from the south part of Newtonville, and probably in the future, from Newton Centre.

When a large part of the three thousand four hundred acres shall have been sewered on this basis, it may occasionally happen that the principal branch sewers will all run full at the same time. During the short and infrequent times

* The plans and profiles here referred to are on file in the office of the City Clerk, where they may be seen.

when this occurs, the excess of flow from the branches should be discharged into the river, by an overflow at the head of the main, as indicated on one of the plans. At such times the house sewage will be less than one per cent of the whole flow. When the whole system shall be completed, there may be several storms per year which would overflow the principal branch and main sewers if all the water were admitted to them. When this time comes, many of the inlet openings may be reduced, so as to exclude more of the storm-water, and additional brook channels or "storm-sewers" may be made as found needful. Possibly storm overflows may also be made at other places besides the head of the main. Some relief may also be obtained incidentally by the construction of branches needed in new streets, etc.

The construction of this system, — if the city should decide to enter upon it, — would naturally be extended over some fifteen or twenty years. Within this time, many new streets will be laid out, and other changes will be made which cannot now be foreseen ; and doubtless, some of the details now suggested may need to be altered to suit the new conditions. Probably some of the details may also be changed to advantage, in consequence of more full and exact information which may be obtained prior to construction. In other words, the plans indicate what seems best according to our present knowledge and our best forecasts as to the future. The locations and sizes of some sewers which seem most likely to be changed, in consequence of lapse of time and change of circumstances, are indicated on the plans by broken lines, and some locations are indicated by pencil lines only.

The streets of Newton having been laid out without reference to sewerage are much less convenient therefor than they might have been ; that is, a better system of sewers could be made at much less cost if the streets had been rightly located for it. In many cases we can secure shorter and straighter routes, less depth of cutting, less rock excavation, etc., by leaving the streets and running through

private lands. Usually, however, small sewers will be required in the streets so abandoned. The differences in cost of construction and other advantages of one scheme over another can be estimated with confidence. But the cost of right of way is a very uncertain element, and in many cases the choice between different locations would depend upon the spirit, — whether fair or extortionate, — in which the landholders meet the city. Some of the alternative routes depending on the attitude of landholders are indicated by pencil lines on plans.

It would seem to be wise for the city to secure the routes which will soon be needed for sewers, before they shall be further obstructed by buildings, etc., and generally to use all legitimate means of controlling the locations of new streets, both for convenience of drainage and in the general interest of tax-payers and the travelling public, instead of leaving them to the short-sightedness and self-interest of men whose principal object is to sell the utmost possible number of house-lots out of a given piece of land, as has often been done.

Before proceeding to construction, the quality of materials and workmanship to be secured should be carefully considered. Much of the sewer work in this country is too poor for true economy, both as to the durability and the proper working of sewers. Irregular sags in the grades, and great roughness of interior surface are very common, and they contribute largely to the formation of deposits in sewers. Cities which build poor sewers are almost sure to neglect them afterwards, so that they become reservoirs of pestilential filth, producing great quantities of offensive and poisonous gases. Practically, but few houses are well protected from the entrance of sewer gases through their soil pipes, though it is possible to do it; but even then the inhabitants suffer from the general pollution of the soil and air.

These dangerous nuisances are not uncommon in New England cities; but they can be wholly avoided by good plans, good construction, and subsequent good care.

These considerations are especially important in connection

with the large areas of flat land in Newton, where the sewers can have but slight falls.

The discharge of sewage into Charles river, even temporarily, at any place above the outfall herein proposed, would be somewhat objectionable, and would be strongly opposed; so that it seems impracticable to begin on a small scale by constructing and using any of the lateral sewers first.

The cost of the main and principal branch sewers will be a very large part of the cost of the whole system. Considering the delay which may result from this, and the probability that in any case, large parts of the system will not be built for several years,—during which time prices may vary considerably,—it seems useless to undertake to make close estimates of the cost; but I append approximate estimates for some of the principal lines of sewers which will be needed first, separating them into divisions so as to indicate the cost of reaching some of the more important points. These estimates include land damages and engineering:

1st Division.—From outfall near the arsenal, westerly across the marsh, and along the foot of the steep river bank to junction of Ward 7 branch, near Lemon's brook, main sewer eight and one-half feet in diameter, or eight feet by nine feet oval \$175,000

2nd Division.—From Ward 7 branch to and through Maple Street, thence via Galen and Boyd, or Galen and Morse Streets, to Boyd's pond; thence along the shore of the pond to Pearl Street; diameter eight and one-half feet 100,000

3rd Division.—From Pearl Street, across lands of J. Sturgis Potter and others, and through Middle Street, so called, to Adams Street; thence through a private street and across Crafts Street to the junction of the branch from the south part of Newtonville; diameter eight and one-half feet 61,000

4th Division.—From Newtonville south branch, across private lands to Central Avenue; thence through Turner Street to Walnut Street; diameter six feet nine inches 30,000

5th Division.—From Turner Street via Walnut and Watertown Streets to Brookside Avenue; sewer six feet nine inches in diameter 39,000

(Perhaps some saving can be made in this division by crossing private grounds.)

6th Division.—From Brookside Avenue, via Watertown and Washington Streets to Waltham Street; sewer six feet three inches by six feet nine inches 60,000

\$465,000

Respectfully,

EDWARD SAWYER.

BOSTON, November 30, 1878.

